

WIN THESE PRIZES!



VELOCI SLIM AND PULSE WRISTWATCHES



LINKSYS

RE1000 WI-FI RANGE EXTENDER N300



HARDWARE MAGAZINE

PHILIPPINES



REVIEWED

LENOVO PHAB PLUS
SUZUKI ERTIGA
APPLE IPHONE 6S
PLUS LOTS MORE!

WE SELECT OUR

TOP TECH PICKS

OF THE YEAR



SHOOTOUTS!

FULL-FRAME
HIGH-MEGAPIXEL
CAMERAS

NVIDIA GEFORCE
GTX 980 CUSTOM
CARDS

AFFORDABLE 2-IN-1
CONVERTIBLES

SUZY

PHABS OUT WITH **LENOVO**



HWM PHILIPPINES
CELEBRATES
ITS 11TH
ANNIVERSARY!

DECEMBER 2015 • VOLUME 12, ISSUE 01



Introducing the all-new Mitsubishi Strada

Fieldmaster 4WD Edition



RULE.

There is no place too far or too difficult for the Mitsubishi Strada Fieldmaster 4WD. Features such as a Nudge Bar with PIAA LED Auxiliary Lamps and a Ralliart Aluminum Skid Plate make it an effortless journey as you make your way through any rough terrain to grand discoveries.



Ralliart Aluminum Skid Plate

• Vertical Phantom Grille
• Nudge Bar with PIAA LED Auxiliary Lamps



Diamond Vane Aluminum Wheel Design

• Rear Bed Aerodynamic Extension
• 4WD Body Graphics

MITSUBISHI
STRADA
It's Your Sport Truck



Drive@earth

RALLIART

PIAA
HIGH PERFORMANCE LIGHTING SYSTEMS

Visit your nearest Mitsubishi Motors dealer now!

*All Fieldmaster accessories are dealer options.

www.mitsubishi-motors.com.ph

Mas Masaya ang pasko sa my|phone



**BEST
SELLER**

my35
5" Octa-Core LTE
P6,888

5.0" HD IPS Display | 1.3GHz 64 bit Octa-Core
13MP Samsung Sensor PDAF Rear w/ 5MP Front Camera
HiFi Audio | 4G LTE | Android Lollipop
Dual SIM | 16GB + 3GB | 3140mAh Battery
Pinoy Content App | MicroSD slot up to 64GB

#WalaKaSaPhoneKo



myphone.com.ph



/myphone



/myphoneofficial



/myphoneph

FREE
MYPHONE 8-YEAR
COMMEMORATIVE WATCH



CONTENTS

D E C E M B E R 2 0 1 5

48

NATIONAL
SWEETHEART

10

■ Think

12

■ Scene

16

■ Bulletin

19

■ Spotlight

20

■ Q+A

22

■ Lifestyle



FOLLOW US



HardwareZone.com.ph



HWM Philippines



HardwareZonePH



hardwarezoneph

ROG MAXIMUS VIII MOTHERBOARDS



PERFORMANCE GAMING NEVER LOOKED THIS BEAUTIFUL



GAMING POWER UNLIKE ANY OTHER

When it comes to computing force, gamers and enthusiasts from around the world look only at ROG motherboards. Completely tune your gaming setup with ASUS-exclusive technologies such as 5-Way Optimization, ASUS Pro Clock, and GPU Tweak to unlock the latest Intel processor, DDR4 memory, and graphics card to their full potential with just a click.

BEST GAMING AUDIO

ROG motherboards smartly determine what audio is needed with formidable audio solution—the SupremeFX 2015. With select professional-grade audio components, innate noise-cancellation, and customizable tuning, ROG motherboards present a completely decked-out gaming solution in one package. Coupled with 0dB fans for graphics cards, gamers will be immersed in a different reality.

BEST GAMING NETWORKING SOLUTION

Online gaming is frustrating especially if you miss out due to lag. ROG knows this problem and has equipped the Maximus VIII series motherboards with its latest GameFirst and Intel networking technology. Now, online games are faster and more enjoyable while making your PC more efficient and stable.

BEST COOLING AND NOISELESS TECHNOLOGY

With games becoming more demanding, graphics cards are pushed to the limits, ramping up their speed at the expense of temperature and noise. ASUS quickly solves this with the new DirectCU III cooling solution, making the card 3x cooler and 30% quieter while noiseless on mainstream games and applications.



FEATURED MODDER

JESSE PALACIO

AGE: 34 | OCCUPATION: FULL-TIME MODDER | HOBBIES: BILLIARDS

WHEN DID YOU START MODDING AND WHAT INSPIRED YOU TO TAKE THIS CRAFT?

I started modding around 2006. I only worked on my own until I realized that modding was already growing big in the Philippines. I chose to stay below radar until around 2012 when I saw the appreciation given by enthusiasts from other countries.

WHY DID YOU CHOOSE ASUS AS A PART OF YOUR CREATIONS?

Asus is always my first choice because they not only deliver what they advertise, but they also have the BEST looking products out there.

WHAT ADVICE CAN YOU GIVE TO ASPIRING MODDERS IN THE PHILIPPINES?

Do what you can with what you have and not let others dictate what you are going to do with it. Also, don't limit yourself because you do not have "tools" and always keep in mind, IT IS THE MODDER THAT MAKES THE TOOLS, not the other way around.

CONTENTS

D E C E M B E R 2 0 1 5



38
TEST



40
TEST



47
TEST

GEAR

24

TEST

32

- Lenovo Phab Plus
- Suzuki Ertiga
- Apple iPhone 6s and 6s Plus
- Samsung Galaxy Tab S2 8.0
- ASUS ZenPad S 8.0
- Sony Xperia M5 Dual
- Sony Xperia C5 Ultra
- LG G4 Beat
- Epson EB-X04
- AOC G2460PG
- ASUS GeForce GTX 980 Ti Poseidon Platinum
- Happy Mobile Magic Touch
- Genius SP-925BT
- Plantronics BackBeat Fit
- Active Eye Pro-30

54

Full-Frame High-Megapixel Camera Shootout

- Canon EOS 5DS R
- Nikon D810
- Sony A7R II

64

NVIDIA GeForce GTX 980 Custom Card Shootout

- ASUS Strix GeForce GTX 950
- Gigabyte GeForce GTX 950 Xtreme Gaming
- MSI GeForce GTX 950 Gaming 2G

72

Affordable 2-in-1 Convertible Shootout

- Acer Switch 10E
- ASUS Transformer Book T100 Chi
- HP Pavilion x2

FEATURE

80

Editors' Choice Awards

86

Tech in Medicine

96

Ultimate Guide to the iPhone 6s and 6s Plus

LEARN

102

Shootout Between Microsoft's Surface Hybrids

106

Noting Down the Best of the Samsung Galaxy Note 5

108

What's New in watchOS 2

110

What the New DirectX Version Numbers Mean

SUBSCRIPTION PRIZE

113

Veloci Wristwatches



64
SHOOTOUT



96
FEATURE

102
LEARN



msi®



CHOOSE YOUR DESTINY

BUY ANY OF THE PARTICIPATING MODEL AND GET A FREE ITEM.

Z170 / H170 GIVEAWAY PROMO!

LIMITED OFFER!

Z170A
XPOWER GAMING
TITANIUM EDITION



FREE



MSI DS502
GAMING HEADSET
WORTH PHP 3,299

Z170A
GAMING M9
ACK



FREE



STEELSERIES SIBERIA v2
GAMING HEADSET
WORTH PHP 4,999

Z170A
GAMING M7



FREE



STEELSERIES KINZU v3
GAMING MOUSE
WORTH PHP 2,199

Z170A
GAMING M5



FREE



STEELSERIES KINZU v3
GAMING MOUSE
WORTH PHP 2,199

Z170A
GAMING M3



FREE



STEELSERIES KINZU v2
GAMING MOUSE
WORTH PHP 1,799

H170
GAMING M3



FREE



STEELSERIES KINZU v2
GAMING MOUSE
WORTH PHP 1,799



MSI Philippines



NO. 1 IN GAMING

** Promo runs while supplies last.*

EDITORIAL

(editor.ph@hwzcorp.com)

Editor

MARVIN R. VELASCO marvin.velasco@hwzcorp.com

Online Editor

KATRINA D. CANLAS katrina.canlas@hwzcorp.com

Deputy Editor

ASHLEY LUCAS aashley.lucas@hwzcorp.com

Technical Staff Writer

CHESTER LABACO chester.labaco@hwzcorp.com

Contributing Writer

ROYCIE SALEN

CREATIVES

(design.ph@hwzcorp.com)

Art Director and Photographer

VICTOR FELIX PULGAR victor.pulgar@hwzcorp.com

Online and Print Graphic Artist

JOHN PAUL CHRISTIAN DIZON jp.dizon@hwzcorp.com

SALES AND MARKETING

(sales.ph@hwzcorp.com)

Marketing Director

NOEL SAMSON noel.samson@hwzcorp.com

Media Supervisor

DARLENE SASAN darlene.sasan@hwzcorp.com

Media Executives

CHANEL REYES chanel.reyes@hwzcorp.com

REA GRACE REYES rea.reyes@hwzcorp.com

MANAGEMENT

Managing Director

CHARITY IBAY charity.ibay@hwzcorp.com

HR Admin and Marketing Specialist

MARIA THERESA SANTOS tess.santos@hwzcorp.com

Admin and Accounting Assistant

JONALD ALBUERO jonald.albuero@hwzcorp.com

Circulation Coordinator

CARMELA LLENOS mela.llenos@hwzcorp.com

Messenger

RODEL GASALAO

Drivers

ALLAN NEPOMUCENO

LEO MENDOZA



Hardware Zone Phils. Corp.

Unit B-2, Topy Main Building, No. 3 Economia Street, Bagumbayan,
Quezon City 1110, Philippines

Tel: (+632) 634-9179; Fax: (+632) 634-9180

HWM (HardwareMAG®) is published monthly by Hardware Zone Phils. Corp., under license by
SPH Magazines Pte. Ltd., Publisher of HWM (HardwareMAG) Singapore.

HWM (HardwareMAG), Copyright and trademark registered by SPH Magazines Pte Ltd. All rights reserved.

The trademark and content may not be used or reproduced without the permission of SPH Magazines Pte. Ltd. and Hardware Zone Philippines Corp.

SPHmagazines

GROUP EDITOR-IN-CHIEF

CAROLINE NGUI nguisc@sph.com.sg

GROUP EDITOR

JIMMY TANG jimtang@sph.com.sg

MANAGING DIRECTOR

DENNIS PUA dennisp@sph.com.sg

GENERAL MANAGER

PANG LEE CHENG panglc@sph.com.sg

CHIEF EXECUTIVE OFFICER

LOH YEW SENG lohys@sph.com.sg

BUSINESS DEVELOPMENT & INTERNATIONAL LICENSING DIRECTOR

FOONG SEONG KHONG foongsk@sph.com.sg

PUBLISHING SERVICES DIRECTOR

LEONG TSCHENG YEE leongty@sph.com.sg

CORPORATE COMMUNICATIONS HEAD

CHIN SOO FANG soofang@sph.com.sg

SENIOR HUMAN RESOURCES MANAGER

IRENE LEE leeb@sph.com.sg

INTERNATIONAL OFFICES

Hardware Zone Indonesia Office

Martin Wijaya (Chief Editor)
PO Box 6169
JKUP 14440
Jakarta, Indonesia
Tel: (62) 21-612-0233 / 0955
Fax: (62) 21-6220-2580
Email: info.id@hwzcorp.com

Hardware Zone Malaysia Office

Michael Low (Editor)
30, Jalan Kartunis U1/47, Temasya
Industrial Park, Glenmarie, Seksyen U1,
40150 Shah Alam, Selangor, Malaysia
Tel: (603) 5569-6800
Fax: (603) 5569-6810
Email: sales.my@hwzcorp.com

Hardware Zone Taiwan Office

Dennis Chou (Asia Media Contact)
2F-2, No. 35, Sec 2,
Fushing South Rd,
Taipei 106, Taiwan
Tel: (886) 2-8773-4199
Fax: (886) 2-8773-4200
Email: sales.tw@hwzcorp.com

Hardware Zone Thailand Office

Pongsawat Wongterasoot (Exec. Editor)
345 Soi Ratchadapisek Rd,
10 Sub-Junction 7, Huaykwang District,
Bangkok 10320, Thailand
Tel: (66) 2645-2588
Fax: (66) 2645-2008
Email: sales.th@hwzcorp.com


Copyright © 2015, Hardware Zone Phils. Corp.
All rights reserved. No part of this magazine shall be reproduced in any form without the written consent from the Publisher. Comments, opinions, and views of individual contributors expressed in the magazine do not necessarily represent those of the Publisher. Under no circumstances whatsoever shall the magazine/publisher be liable for any direct, indirect, special, incidental, or consequential damages that may arise out of or in connection with the use of the information made in the magazine. All views, opinions, results, and benchmarks used in this publication are based on the prerogative and expertise of the writer(s) serving the respective market and readership of which the publication and products are marketed in.

REDFOX LEAD

BUILD YOUR DIGITAL EMPIRE

Achieve personal freedom and improve financial independence with **REDFOX Lead**

- ✓ No membership fee required
- ✓ Purchase of REDFOX products at the preferred price
- ✓ Receive bonuses and commissions, if eligible
- ✓ Receive REDFOX literature and other communications
- ✓ Participate in REDFOX sponsored support, service, training, motivational and recognition functions
- ✓ Participate in promotional and incentive contests and programs sponsored by REDFOX for its representatives.
- ✓ Retail REDFOX products and profit from these sales.



REDFOX LEAD is the foundation you need to get started in ensuring your path to continued success. Whether you want to start a part-time business for extra income, or jump right into a full-time venture, starting your business with us can be very rewarding and a prosperous experience.

For further details and inquiries, please contact **722-0000** or email us at **marketing@redfox.com.ph** or visit us at **www.redfoxtechnologies.com**



ED'S NOTE

DECEMBER
2015

ONE AND ONE

We love December not just for the holiday festivities, but also because it's HWM Philippines' grand anniversary. As you can see on this month's cover, it's our eleventh, and easily the most significant one since our beloved publication began.

The past few months sparked the biggest changes in the magazine's history. From the integration of lifestyle and motoring topics, to a more streamlined layout and beautiful cover models, HWM looks like a totally different product from the one we cherished last year. That doesn't mean to say we've let go of our roots, however, as we're still as focused as ever on the hardware reviews that we're well known for.

You can see how much HWM has evolved all across this issue, from the cover to the highly relevant feature stories towards the end. International superstar Suzy is our leading lady, and she's here to tell us how fabulous her life with technology has been lately. Scoot over a few pages from her dedicated section to discover a trio of shootouts that explain which high-resolution camera, mainstream graphics card, and affordable convertible deserve your hard-earned cash. That's variety right there!

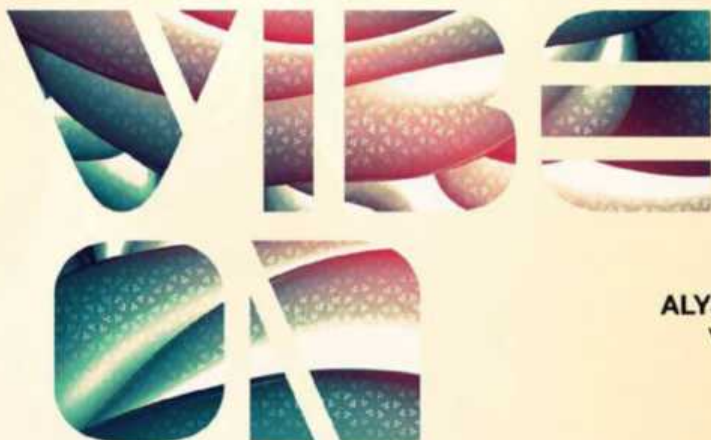
Another reason to celebrate is the release of HWM's Holiday Gift Guide, which you can now find in leading bookstores and convenience stores near you. It's basically a loaded catalog of geeky gadgets for you and your loved ones, and if you're still hustling to get your holiday shopping done, we suggest you grab a copy for some techie assistance.

Whether you're reading this on your tablet, smartphone, or the traditional print version, we're ecstatic that you're a part of our eleventh year in the tech industry. With no signs of slowing down, expect to see us for another eleven years!

The HWM Team

Comments about this issue? Suggestions? The HWM Team would love to hear from you! Send us your thoughts at editor.ph@hwzcorp.com.





Lenovo

ALYSSA VALDEZ
Volleyball MVP

The power to play on.

Harness great power with a smartphone that refuses to quit.




- **Massive 5000mAh Battery**
Among Lenovo phones
- **Quick charge function**
- **Fingerprint Security**
- **5.5" Full HD Display**
- **13MP main and 5MP front cameras**
- **2GB RAM + 32GB ROM**

Lenovo VIBE P1

P14,999 SRP



lenovomobile.com.ph

Follow **LenovoMobilePH**   

Lenovo and the Lenovo logo are trademarks or registered trademarks of Lenovo. ©Lenovo 2015. All rights reserved.

ASC# L047N101215L



THE SSD EFFECT

Why industry watchers and players are calling SSDs one of the most important inventions in recent history.

by Kenny Yeo

SSDs have been around longer than you might expect. The earliest SSDs were developed in the 1950s and used volatile memory and were prohibitively expensive, so much so that they were only used in very specialized industries. The first flash-based SSDs that used nonvolatile memory, similar to the ones we are familiar with now, were introduced only towards the end of the 80s.

Although flash memory paved the way for widespread mainstream adoption, it wasn't only until the past two or so years that people – OEMs, businesses, consumers – really took notice of SSDs. Early flash-based SSDs had erratic performance and were plagued by reliability issues. Although these problems went away as the technology matured, cost was still a prohibiting factor. This changed around 2010 when demand for NAND memory grew and manufacturers ramped up production. Prices of SSDs have fallen rapidly in the past two years, allowing for widespread adoption, across not just consumer devices, but also in the enterprise space.

For example, ChyronHego, one of the world's largest providers of broadcast graphics, leverages on SSDs to build systems capable of handling the intensive bandwidth demands of modern-day high-resolution broadcasting. If you watch television regularly, there's a high chance you've seen ChyronHego's work on air without knowing.

At the recent Samsung SSD Summit in South Korea, ChyronHego was effusive in their praise for what SSDs can do for them. With a growing demand for 4K video content and the need to meet high-bandwidth demands of such workflows, the company has switched to using SSDs. Peter Morrone, Senior Vice President of Engineering at ChyronHego, also said that SSDs helped simplify their systems, because a single SSD can provide the same level of performance as a complicated RAID array of hard disk drives. As a result, they can build systems of higher performance that

"With a growing demand for 4K video content and the need to meet high-bandwidth demands of such workflows, the company has switched to using SSDs."

are less complex, take up less space, and require less energy.

The average power consumption of an SSD is between 3W to 4W, while idle power draw can be as little as 5mW or 0.005W. On the other hand, a high-performance 7200rpm HDD designed for enterprise workloads can draw as much as 10W of power, while idle power draw is usually in the region of 1.5W. Not only that, because an SSD is so quick, it can complete its task and return to an idle state much faster than a hard disk drive, thus saving even more power in the long run. This is one of the reasons why notebook manufacturers favor SSDs over hard disk drives; apart from

improved performance and compact dimensions, they can also have a significant positive impact on battery life.

However, it is in data centers that the power efficiency of SSDs can be best appreciated. Data centers housing a large number of drives enjoy very significant cost savings and even the fringe benefits add up. Because SSDs consume less power, they generate less heat, saving on cooling requirements. They also have no moving parts, which saves on facility setup (i.e., racks no longer need to compensate for vibrations).

Thanks to the many benefits of SSDs, the market is expected to grow at double-digit rates, and will more than double in the next five years. Samsung, one of the leaders in the market, currently estimates

that the demand for flash memory is at around 60 billion GB, and it expects this figure to grow to over 120 billion GB in 2020. Already, the capacities of SSDs are approaching that of hard disk drives. Next year, Samsung will roll out 4TB versions of its SSD 850 Pro and 850 Evo drives. And as production of its latest memory chip ramps up, expect these large-capacity SSDs to become more affordable. So, as SSD capacities and prices catch up to that of hard disk drives, the bigger question is whether hard disk drives can weather this onslaught and remain relevant in the future.



Experience the Next Generation of Photography!

TECHNOLOGY MEETS EMOTION

Deliver a rich, emotional experience from your images, to every customer. Images and products now instantly come alive with video, sound and photo galleries.



DOWNLOAD THE
iSmartPhoto APP



LAUNCH THE APP
AND ENTER CODE 1234

IMAGE
HERE

POINT YOUR DEVICE
AT THE IMAGE
AND ENJOY YOUR NEW
MULTI-MEDIA EXPERIENCE

TRY ME!



Putting Security First

As major cyber security threats, including targeted attacks and cyber-espionage campaigns, continue to emerge, various industries and individuals become vulnerable. Kaspersky Lab, an international software security group that operates in almost 200 countries and territories around the world, recently held its first Asia Pacific Cyber Security Summit in Port Dickson, Malaysia to provide information and tackle this issue. Speakers shared information about ransomware and updated us on the latest APAC threats and currently active APTs. In addition, there was a live demonstration of a new technology called Biohacking, wherein an identity chip is inserted inside the hand of an individual for easy access in various establishments, products, and services.



**LEAN & MEAN
MACHINES**

**WIN
THIS!**



Fire it and watch your enemies lose! Featuring an ergonomic gun-type design, the **Zalman FPSGUN** knows how to impress. This gaming mouse is equipped with five programmable buttons and one illuminated scroll wheel. It also has an adjustable sensitivity of up to 2000dpi for accurate tracking and smooth cursor control while gunning down opponents in your competitive games.

If you want fierce gaming, tell us why you want to have this new gaming mouse and get a chance to win a brand new Zalman FPSGUN!

Send in your entries via email to editor.ph@hwzcorp.com together with your name, address, and telephone number. For more information about the product, visit www.zalman.com. Special thanks to www.leanandmeanmachines.com.

TCL CURVED UHD TV

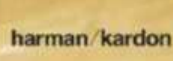
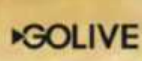
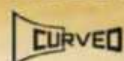
Pushing Endless Boundaries

TCL

OFFICIAL TV
OF THE



H8800 | 65"



Slim Crescent Bezel



Monolithic Audio Stand
Powered by Harman / Kardon Audio System

BRINGING FUN & ENTERTAINMENT HOME



www.tclphilippines.com



[tclphilippines](https://www.facebook.com/tclphilippines)



[TCLPhilippines](https://www.instagram.com/TCLPhilippines)



[@TCLPH](https://twitter.com/TCLPH)



Two New Series



Targeting schools and corporations, Panasonic Philippines launched two new sets of brighter, longer-lasting compact projectors. The cost-effective PT-LB412 series comes with up to a very bright 4100 lumens, with a lamp and air filter replacement cycle of up to 10,000 hours. The short-throw projector PT-TW341R series, on the other hand, can beam bright images at up to 3500 lumens with no distortion even at a narrow projection distance. Its lamp also minimizes costs, with a max replacement cycle of up to 8,000 hours.



Biggest and Boldest

In an exclusive launch at the SM Mall of Asia in Pasay, Samsung fashionably introduced the new Gear S2, transforming the LED globe into what is claimed to be the world's largest smartwatch.

The brand also opened the new Samsung Galaxy Studio that lets consumers experience the company's commitment to mobile technology. The Galaxy Studio will be at the SM MOA Cyberzone for one whole exciting week.



The New Beast in the City



LG has finally brought the V10 to the Philippines. It's an entirely different beast compared to the G4 that was released earlier this year. It also owns several unique features that separate it from other flagships, such as a second screen situated at the top for quick shortcuts, a dual-lens front camera for extra-wide selfies, and LG's highly touted manual camera mode for greater control over exposure settings during shoots.

Additional Three

Lenovo recently added three new smartphones to its VIBE lineup. The VIBE P1 boasts an exceptional battery life that consumers who are always on the go can take advantage of. On the other hand, the VIBE P1m carries a 4000mAh battery unit that promises quick charging so you can juice it up quick to keep you going throughout the day. And, lastly, the VIBE S1 is claimed to be the first smartphone to have dual front cameras.



Redefining SUVs



The all-new Ford Explorer Sport has finally arrived in the Philippines with a cutting-edge EcoBoost engine and improved technologies. It is expected to deliver an ideal combination of form and function that has redefined yet again how the industry will think about the sport utility vehicle (SUV) segment. The all-new Explorer Sport has been improved inside and out to provide a more comfortable and stable driving experience that complements its rugged and modern appearance.

LG OLED TV

WHY BLACK?

Only perfect black creates perfect color

Infinite contrast that takes you on an unprecedented visual experience.

**PERFECT BLACK,
PERFECT COLOR**



CES Innovation
Award 2015
Honoree [65EG96]



"OLED TV:
Best. Picture. Ever."
CNET



Digital Trends 5/5 stars,
Editors' Choice
"This is, hands down,
the finest TV
money can buy"



LG

Life's Good



A FRUITFUL PARTNERSHIP

TCL Becomes PBA's Official TV for Its 41st Season



As the Philippine Basketball Association (PBA) gears up for an exciting 41st season, TCL, one of the largest manufacturers of televisions in the world, is elated to be the league's official TV sponsor.

The partnership became formal last October, through a contract signing between heads of PBA and TCL Sun, Inc. Having been an undisputed consumer and electronics brand in China, TCL has been able to successfully branch out into other countries, becoming a favorite among consumers for its innovative technologies.

In spite of facing stiff competition, TCL has been able to make a name

for itself outside of China for its cutting-edge technologies that have provided a better television experience for consumers.

This partnership with the PBA is expected to be a very fruitful one, as the PBA will greatly benefit from the TCL products that it will be able to use to enhance the PBA viewing experience for the public. Through industry trending achievements, TCL Sun, Inc. has rightfully earned its place in the market, as it has now become one of the go-to brands for televisions in the Philippines. Aside from impressive product innovations, TCL is also a favorite for its quality and competitive pricing, definitely making it a key player in the global market.

For more information, you can visit www.tclphilippines.com.

DIGITAL TRENDSETTER

Epson Sets Trend in Digital Textile Printing



Epson continues to set the trend in digital textile printing with the unveiling of the new SureColor textile printers: the SC-F6270, SC-F7270, and SC-F9270 at the "Print Your Passion" fashion show held at the EDSA Shangri-La Hotel.

Epson's new SureColor textile printers feature a new high-density black ink that produces richer black prints, especially for high-volume commercial applications that require impressive print quality at a low running cost.

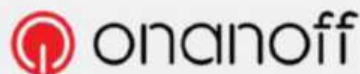
Epson's most advanced textile printer, the F9270, promises to deliver amazing performance for highly efficient and reliable production runs. It combines the speed, precision, and durability of the PrecisionCore printhead technology with an original dual 1.5L ink tank system.

Launched during the "Print Your Passion" fashion show, the printer brought to life ten new designs that pay homage to the beauty of the Philippines. The designs were created by Asia's Most Influential Designer, Avel Bacudio, who has recently utilized digital prints to bring his creative ideas to life.

Visit www.epson.com.ph to get more details.

UNLEASH YOUR CREATIVITY

Onanoff Introduces BuddyPhones' 'Color Your Music' Series in PH



Onanoff, the creator of intelligent accessories for gadgets, recently announced

the availability of the BuddyPhones "Color Your Music" series, which is a set of kid-friendly headphones with new customizable color-in sticker packs, in the Philippines.

Kids can choose how they want to design their headphones and color directly onto the stickers with crayons or markers, and then stick them on the BuddyPhones for a fresh and unique look. The "Color Your Music" series is perfect for helping kids unleash their creativity, as they draw, stick, and play. With the included BuddyCable, the little ones won't have

to fight over time with the iPad. At just PhP 1,383 and PhP 2,214, the BuddyPhones are the perfect gift for your budding artist or musician this holiday season.

The "Color Your Music" series sports BuddyPhones' volume-limiting technology for safe listening, a bendable and flexible headband, and a BuddyCable audio splitter, so up to four friends can listen to one device at the same time. BuddyPhones are available in yellow, blue, pink, purple, green, or orange at all Power Mac Center stores, OdysseyNext stores, and online store www.lazada.com.ph.

Got to www.facebook.com/MacpowerPH and learn more about onanoff's latest offerings.



Globe President and CEO, Ernest Cu, together with Senior Advisor for Consumer Business Group, Dan Horan, share the stage to reveal the exciting partnership of Globe and Star Wars as part of the telco's major collaboration with Disney.

Star Wars Fever in PH Heats Up

Globe Telecom Now Offers a Complete Star Wars Experience In and Beyond the Cinema



Fans and communities all over the world are gearing up for the much-awaited

release of *Star Wars: The Force Awakens*. With a little over a month away before its premiere in the Philippines, the Star Wars fever is definitely heating up with all the social media buzz and on-ground experience that Star Wars fanatics have been raving about.

Leading the pack is the country's purveyor of the Filipino digital lifestyle, Globe Telecom, whose partnership with Disney Southeast Asia allows the leading telco to bring the Star Wars fever to a new level with a series of experiences and offerings in anticipation of the movie premiere this December.

Kicking off the excitement for Star Wars, Globe is transforming its Generation 3 (GEN3) stores nationwide into a Star Wars-themed hub with creative installations, exclusive *Star Wars: Battle Pod* arcade games, and premium collectible accessories, toys, and gadgets up for grabs for all Star Wars fans.

Starting November 4, 2015, customers can visit the Globe GEN3 store at Greenbelt 4 in Makati to check out the Star Wars displays, play a few rounds on the *Star Wars: Battle Pod*, and start an exclusive collection of Star Wars gadgets from the classics to *The Force Awakens* thematic designs. GEN3's collection of Star Wars digital connectors and

accessories include Darth Vader and Storm Trooper car chargers, Star Wars character flash drives, phone cases, and power banks.

According to Dan Horan, Senior Advisor for Consumer Business at Globe, their partnership with Disney and its brands such as Star Wars allows Globe to "bring more wonderful experiences to [their] customers: from exclusive theatrical releases to innovative offerings."

Recently, Globe also announced the availability of the most in-demand Star Wars toy to date, the BB-8 Droid by Sphero, in its GEN3 stores. Through an exclusive deal with Sphero, Globe has been made the only telco company that carries this product in the country. Offered at PHP 12,499.75, the BB-8 is iOS- and Android-compatible, housed in a durable polycarbonate shell, and boasts a Bluetooth smart BLE connection of up to a 100-foot range.

In May this year, Globe signed a comprehensive and multi-year collaboration with Disney Southeast Asia, giving customers access to video-on-demand, interactive content, theatricals, promotions, and other related services across multiple devices. Customers will now have access to an array of Disney content offerings such as long- and short-form programming, interactive content and games, theatrical releases, and retail promotions.

For more information, visit www.globe.com.ph.



Globe Head of Stores and Retail Transformation, Joe Caliro, dressed as a Jedi, introduces the Star Wars digital connectors that are exclusively available at Globe GEN3 stores.



People in Star Wars costumes surround the entrance of the Globe GEN3 Store at Greenbelt, Makati during the announcement of the partnership of Globe and Disney.



The Globe GEN3 Store at Greenbelt 4, Makati is decked out in full Star Wars fashion – from games to gadgets – that customers will enjoy.



A Shower of Awesome Gadgets

Prepare to rev up your tech-savvy lifestyle this December, as Cyberzone brings you a whole load of new devices and accessories from the country's top technology brands. Cyberzone is the ultimate technology and lifestyle center of the SM Supermalls, with over 40 branches nationwide. Visit the nearest Cyberzone and shower your dearest loved ones with these amazing gadgets. Give the perfect gift and have a Merry Christmas!

SAMSUNG GALAXY S6

Flaunting a 5.1-inch Super AMOLED display, the Samsung Galaxy S6 has made a big leap, upgrading to Quad-HD. It has Corning's Gorilla Glass 4 protection, and is built with an Exynos 7420 octa-core processor with up to 128GB internal storage option.

HUAWEI TALKBAND B2

The Huawei Talkband B2 is a Bluetooth headset that attaches onto your wristband, which turns it into a wearable smartwatch. It sports a 0.73-inch mono PMOLED display that will let you see on-screen notifications while you track all your activities.

SONY SMART WATCH 3

The Sony Smart Watch 3 is equipped with a quad-core processor, 512MB of RAM, and 4GB of internal storage. It is built with a silicone rubber strap, flaunting a 1.6-inch display with a resolution of 320 x 320, a microphone for voice control, and a micro-USB port on its rear.

SAMSUNG GALAXY NOTE 5

Packed with an Exynos 7420 octa-core SoC processor and 4GB of LPDDR4 RAM, the Samsung Galaxy Note 5 screams speed. It sports a 5.7-inch Super AMOLED display and comes with a 16-megapixel rear and 5-megapixel front camera with f/1.9 aperture.

APPLE MACBOOK

Taking the concept of an ultra-portable notebook to the extreme, the Apple MacBook weighs only 920g and is just 13.2mm thick. It has an impressive 12-inch Retina display, and is powered by Intel's Core M processor, allowing the device to be slimmer.

CANON EOS 7D MARK II

The Canon EOS 7D Mark II features dual-Digic 6 processors, a 20.2-megapixel CMOS sensor, a speedy autofocus, and a new mirror and shutter system that allows continuous shooting of up to 10 frames per second. It also flaunts a large handgrip for easy handling.

SONY A7 II

Featuring a 5-axis image stabilization, 24.3MP Exmor CMOS sensor, advanced BIONZ X image processing engine, and 25 contrast detection AF points that are placed over a wide area of the screen, the Sony A7 II delivers outstanding image quality and performance.

LG G4

Highlighting an impressive curve, coupled with remarkable capabilities, the LG G4 will let you experience greatness. It flaunts a 5.5-inch display, 16MP rear camera with f/1.8 aperture, and 3000mAh removable battery, and is powered by a 1.8GHz hexa-core processor.

IPHONE 6S PLUS

The latest iPhone 6s Plus has the new 3D Touch that is integrated into every part of iOS 9, letting the display register varying levels of pressure, so you can jump straight to your favorite features inside an app or easily preview web pages, messages, and images.

SONY A7 II

LG G4

HUAWEI TALKBAND B2

SAMSUNG GALAXY NOTE 5

Visit a Cyberzone branch near you. For more updates, visit or follow the following to discover more gadgets for you:



www.smcyberzone.com



fb.com/smcyberzone



[@smcyberzone](https://twitter.com/smcyberzone)

GOOGLE APAC 2015



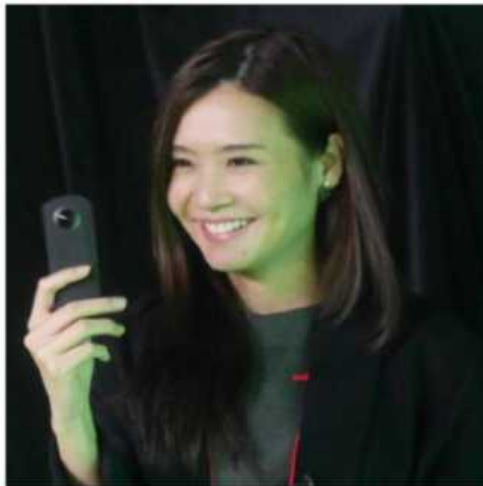
With the goal of spreading the good news of Google to the Asia-Pacific region, the tech giant's annual press event highlighted the most vital products and services that will help both consumers and professionals.

MACHINE LEARNING IN ACTUAL APPLICATIONS

What's a complex set of software and algorithms without real-life usage? Google is pushing machine learning like never before, and the search engine specialist is placing significant investments in the project. Google's push for machine learning actually began roughly three years ago with their speech recognition and ad targeting, and now they want to expand all the information they've gathered to more of the company's vast array of consumer products.

One product at the forefront of Google's machine learning push is Inbox, which is Gmail's smarter emailing sibling. Smart Reply reads your emails and suggests responses based on all your other replies. The more you use it, the better the software understands your style through machine learning, and the options become more precise. Gmail has been implementing machine learning a little more subtly, choosing which emails belong in your inbox and which go to the spam folder. Google claims that Gmail can intercept 99.9% of all spam now.

Google Photos has a similar application, wherein you can search for pictures without the need to add in your own labels and tags. As for Google Translate, the conversations with the app are becoming more and more fluid, thanks to deeper algorithms and constant machine learning.



WHAT IS MACHINE LEARNING?

For the sci-fi nuts: No, this isn't about creating hyper-intelligent cyborgs that'll take over the world. As Google themselves put it, humans won't build bad robots; at the same time, the company also predicts that computers will rival human intelligence in 15 years time. Still a scary thought, don't you think?

In a nutshell, machine learning is about making machines understand things using patterns and computational theories. The old way involved using explicit rules to create smarter machines; the new way is about learning from examples, then adjusting to reduce errors. With that, the learning process is gradual, and would take billions of cycles to master a function. Deep learning, which is a powerful class of machine learning, aims to advance the method using simple, trainable math functions, but more research is needed before we hit humal-level intelligence.

TENSORFLOW SMARTENS UP MACHINE LEARNING

Deep learning is not new to Google, as they've been developing their own internal deep learning infrastructure (DistBelief) since before 2011. DistBelief has powered Google's experiments in automated image captioning and their research into neural networks like DeepDream.

In Google's own words, DistBelief had some limitations. It was narrowly targeted to neural networks, it was difficult to configure, and it was tightly coupled to Google's internal infrastructure – making it nearly impossible to share research code externally. That's where TensorFlow comes in.

Google's second-generation machine learning system is specifically designed to be general, flexible, portable, easy-to-use, and completely open-source. That's a key point, because it means anyone from academic researchers to hobbyists to software engineers will be able to contribute to the development of TensorFlow and machine learning, accelerating the development process.

Because TensorFlow is also built to be very general, any computation that can be expressed as a computational flow graph can be computed with TensorFlow, and any gradient-based machine learning algorithm will be able to tap into TensorFlow's auto-differentiation and first-rate optimizers. Google says TensorFlow is available as a standalone library with the associated tools, tutorials, and examples with an Apache 2.0 license, so you can jump right into development.





JACK SALAMIA, SALES AND MARKETING FOR PHILIPS TV

How do you compare the Philips curved televisions to other brands? What makes them stand out?

As you know, Phillips has patented Ambilight. Our curved TVs have this feature which enhances the overall viewer experience by actively adjusting colors based on picture content. This feature gives a more immersive viewer experience, because it allows the viewers to see more picture detail. It also removes on-screen reflection. Imagine the feeling of life, colors, and energy exploding on your TV – that's how I would describe the experience.

Of course, while we are highlighting Ambilight, we also have the many features that most of the other curved TVs have. I would say we were able to bundle up the best features of curved TVs and added a little more. Short answer to the question is: We made sure that our consumers get a big bang out of their buck.

You are currently promoting Ambilight technology. What other technologies are incorporated in the new Philips curved televisions?

Like what I alluded to earlier, our TVs are loaded with the best features that a curved TV can offer. Our TVs also offer the highest level of resolution available in the Philippine market today, which is 4K Ultra HD resolution. It also has DVB-T, which assists with allowing our TVs to receive digital broadcast from our local channels.

How does Philips plan to end the year?

While our curved TV is not yet available in the market, we will work on making our consumers aware that it is coming and that they can look forward to it. We are expecting to launch the Philips curved TV by Q2 2016.

Aside from curved TVs, does Philips plan to launch more new products in 2016?

Next year, we will also introduce the 65" Philips TV HDR (High Dynamic Range) model. HDR technology takes the viewer experience a notch higher by expanding the spectrum of colors. Simply put, this TV will be able to give you a comparison of the whitest white and the blackest black.

EPIK PIOS,
MARKETING HEAD,
MACPOWER MARKETING



Can you give us a few details about the products you are offering?

We offer the world's best and most unique brands and accessories for mobile phones, consumer gadgets, photography, and lifestyle bags.

Our unique product lineup ranges from Bluetooth speakers that can do 20-meter distances, power banks that can fully charge in 30 minutes, cellphone bumpers that can protect your phone from 11-foot drops, and health wearables that can withstand 100 meters of water and last a week without charging.

What makes Macpower Marketing Corporation a trusted distributor of electronic brands, gadgets, and accessories?

We offer the manufacturer's warranty in all of the brands in our portfolio, and only have brands and products that are made for the premium segment.

What are your plans to make sure that local consumers will choose you over your competitors?

We constantly look for new products from the global market, from trusted brands to startup projects. We are not only a distribution company, but equally important, a marketing company, as well. We market all the brands we distribute through traditional advertising, below-the-line, and social media.

You currently distribute a wide variety of products. Do you still have plans of expanding your offerings?

Yes, of course, as long as there is something new and exciting available in other markets that are not yet available locally (that we believe the Filipinos will like), expect us to bring them in.

Travel Tokyo on a Budget!

A Budget Traveler's Guide to Surviving One of the World's Most Expensive Cities

Oftentimes, first-timers and budget travelers get intimidated about traveling to Japan, particularly its capital city, Tokyo. It has been consistently listed in the top ten most expensive cities in the world for the past few years, which shies away budget travelers.

On my recent trip to Japan, I have realized that traveling to Tokyo can be cheaper than traveling to Hong Kong, which is the usual destination of Filipino travelers. But now, you need to know that Tokyo has fallen off from the top ten most expensive cities because of the weakness of the Japanese Yen against the US Dollar. While this is bad news for Japan, this is good news for tourists, as this would be the best time to travel there. Their government is very considerate to tourists now. I got my five-year multiple entry visa in just three business days.



Euroo Digital Luggage Scale (ETS002)

Euroo Travelit (ETS001)

***** T R A V E L *****

1) Plan ahead

Make an itinerary, have a budget, make a shopping list, and know what you want. This would help you save time and money as you go around the city. In Japan, everything is on time. I'm glad I brought my Veloci watch that got me constantly updated with the time.

2) Watch out for a seat sale

You would be surprised that my round-trip airfare, which I purchased in April 2015, only cost around PhP 4,000 (round-trip Manila-Cebu-Narita). I took advantage of the seat sale and bought another ticket from Nagoya to Manila at PhP 2,000, just so I wouldn't have to pass through Cebu anymore on the way back.

3) If you're a solo traveler, CouchSurf

You'll not only meet new friends, you get a free accommodation too. Visit www.couchsurfing.org for more info.

4) If you travel as a couple or in a group, go AirBnB

This is way cheaper than getting a hotel room. You get to have your own place at the city's top locations for as low as PhP 800 to PhP 1,500 per person.

5) Try a capsule hotel or a manga kissa for a unique experience

Most capsule hotels have a spa, and you can stay there comfortably at a rate of PhP 1,200 per night. A manga kissa is a 24-hour internet cafe, where you can read manga, surf the Internet, and use a shower for 30 minutes up to 12 hours. I tried Manboo, near the Shibuya crossing. I paid around PhP 580 for five hours, inclusive of unlimited drinks. When the lights were out, I was able to use my Euroo Travelit while I was searching through my stuff inside my assigned cubicle. I don't recommend these if you intend to sleep long hours.



This is the Senso-ji Temple in Asakusa.



Just some of the KitKat flavors you'll find in Ueno



Sashimi overload at the Tsukiji Fish Market.



This was during the Tokyo Motor Show 2015 at the Tokyo Big Sight in Odaiba.

6) Get a Suica or PassMo IC card

It costs 2,000 yen, but 1,500 yen is all consumable and it's for a lifetime of use. It is a reloadable card, which you can use for payments in the subway, convenience stores, restaurants, etc.

7) Don't miss shopping in Don Quixote, Daiso, and in shopping districts: Ueno and Akihabara

Don Quixote is a cool shop where you can buy a lot of interesting stuff. You can find one in Shinjuku and Ginza. Daiso, of course, is a famous 100-yen shop. Ueno is an area where you can buy clothes, perfumes, bags, chocolates, and everything Japanese at a cheaper price. For consumer electronics, Akihabara is the place to be. But after all the shopping, use a Euro Digital Luggage Scale to ensure you won't exceed your baggage allowance on your next flight.



Me sporting my Veloci Slim wristwatch.



Huge Gundam robot at DiverCity, Odaiba.

8) Dine at hole-in-the-wall restaurants

Authentic Japanese food is not as expensive as you think. An average set meal would range from PHP 200 to PHP 400.

9) You don't have to spend for good photos

You would spend a few hundreds for multiple subway rides, but you don't need to spend for admission fees all the time. You can visit the Meiji Shrine in Harajuku, Senso-ji Temple in Asakusa, and the Tokyo Imperial Palace for free. You would only have to pay an entrance fee if you would like to go up the Tokyo Skytree and the Tokyo Tower.

10) Enjoy Tokyo!

Go to Disney Sea, walk along the Shibuya crossing, visit the giant Gundam robot in DiverCity, take a selfie with Hachiko at Shibuya station, eat at Tsukiji Fish Market – all in one city.

I survived with just 30,000 yen of pocket money for four days and three nights in Tokyo, and I challenge you to do the same!



Me crossing the world's busiest crossing, the Shibuya crossing.



Shibuya is Tokyo's prime youth shopping district.

Serious Shooters

Smartphones may have the edge in convenience and portability, but dedicated cameras will always be heralded as the true scene chroniclers. Here are some of the best and newest from the specialist itself – Canon.

Canon

CANON POWERSHOT G3 X

PhP 41,998

One thing that most compact cameras can't do is zoom to extreme distances. That certainly isn't a problem with the PowerShot G3 X and its superzoom lens. With a focal length of 24 to 600mm and intelligent image stabilization, you're sure to capture subjects from far and safe distances with smooth results. Image quality is top-notch, too, with a 1-inch 20.2-megapixel sensor that hits a maximum ISO of 12800 with the help of the DIGIC 6 processor.



CANON EOS 760D

PhP 47,998 (w/ 18-135mm kit lens)

When high-quality photographs are the priority, then nothing beats a full-fledged DSLR. The EOS 760D is a step up from entry-level DSLRs, thanks to an LCD display on top for quick settings information and a control dial at the rear for exposure adjustments on the fly. Photos are created through a 24.2-megapixel APS-C sensor and DIGIC 6 processor, and can be easily transferred using the camera's built-in Wi-Fi and NFC connectivity.



CANON EOS M3

PhP 25,998 (w/ 18-55mm kit lens)

Building on Canon's newly established expertise in the world of mirrorless cameras, the EOS M3 makes a statement with DSLR-quality imagery and greater portability than its larger siblings. This claim is backed by a large APS-C image sensor and a speedy autofocus system that produce 24.2-megapixel outputs in the blink of an eye. There's also a lens mount for interchangeable lenses and a tilting 3-inch display at the back.



CANON EOS 750D

PhP 34,998 (w/ 18-55mm kit lens)

The EOS 750D has all the makings of a complete DSLR with a 24.2-megapixel APS-C sensor and 19-point autofocus system, along with a 3-inch touchscreen LCD and 5fps continuous shooting. Like the EOS 760D, this shooter can handle Canon's vast collection of interchangeable lenses, and if you're in the mood for sharing (or showing off), there's Wi-Fi and NFC connectivity to wirelessly upload your photos online in an instant.



LUXURIOUS CONNECTION

Tag Heuer Connected Watch

www.tagheuer.com

Constructed with titanium and can be personalized with six different rubber straps, the Tag Heuer Connected Watch is positioned as a luxury smartwatch. It features a 1.5-inch touchscreen LCD display, reinforced with sapphire crystal and has a resolution of 360 x 360 pixels. It weighs 52g and has a 410mAh battery capacity that can be charged by a USB charging cradle. It also has 1GB of RAM, 4GB of internal storage, gyroscope, tilt detection sensor, microphone, haptic engine, Bluetooth 4.0, 1.6GHz Intel dual-core processor, and Wi-Fi 802.11 b/g/n connectivity.



TAP FOR
WEBSITE





LEGENDARY HEADPHONES

Sennheiser Orpheus HE 1060 and HEV 1060

www.sennheiser.com

Crafted using specially selected luxury materials that come with their own dedicated amp for optimal performance, the Sennheiser Orpheus HE 1060 and HEV 1060 are part of a new generation of high-end Orpheus headphones, which feature the same iconic design as the original Orpheus, but with updated materials, such as silver-plated copper cables for optimum conductivity. They also have hand-made, hypoallergenic, breathable ear cups that are made of genuine leather for the best possible comfort and passive noise cancelling.

PHILIPS

Monitors

Christmas Promo

284E5QHAD 28"



Panel Type: MVA
Connectivity: VGA, HDMI x2
Wall Mount: VESA mount
Wide Viewing Angle
Mobile High-Definition Link
SmartImage Lite
Wide Viewing Angle

2x HDMI
Built-in Speakers
Full HD 1080p
Hg Free
Windows 8 Compatible

Free P1000 SM GiftCard



**Grab your
AWESOME
CHRISTMAS
PRESENTS NOW!**

See Participating Dealers
Nationwide

Promo Period:
November 15- Dec 31, 2015

243V5QHSBA 23.6"



Panel Type: MVA
Connectivity: VGA, DVI-D,
HDMI
Wall Mount: VESA mount
Wide Viewing Angle
LED
Smart Control Lite
Smart Contrast
HDMI
Low Power
Hg Free
Windows 8 Compatible

Free P500 SM GiftCard



243V5LSB 23.6"



Panel Type: TFT-LCD
Connectivity: VGA, DVI-D,
Wall Mount: VESA mount
LED
Response Time 5ms
Smart Contrast
Smart Control Lite
Low Power
Hg Free
Windows 8 Compatible

Free P500 SM GiftCard



234E5QSB 23"



Panel Type: AH-IPS LCD
Connectivity: VGA, DVI-D
Wall Mount: VESA mount
Ultra Narrow Bezel
Wide Viewing Angle

Mobile High-Definition Link
Built-in Speakers
Smart Image Lite
Full HD 1080p
Hg Free
Windows 8 Compatible

Free P300
Starbucks Gift Check



224E5QSB 21.5"



Panel Type: IPS-AH
Connectivity: VGA, DVI-D
Wall Mount: VESA mount
Wide Viewing Angle
LED

Smart Contrast
Full HD 1080p
Hg Free
Windows 8 Compatible

Free P100
Starbucks Gift Check



223V5LSB2 21.5"



Panel Type: TFT-LCD
Connectivity: VGA
Wall Mount: Support
LED
Smart Contrast

Response Time 5ms
Low Power
Hg Free
Windows 8 Compatible

Free P100
Starbucks Gift Check



Participating Dealers: Albay Computer, Comlink, Hypertech Computer, Laser Marketing, Octagon, PC Chain, PC Corner, PC Exchange, PC Express, PC Quarter, PC Quick Buys, PC Worx, Thinking Tools, Unicorn, and Vivox



Philips Monitor Philippines | www.mmd-p.com | (02)531-1671 | 1-800-10-5311671

PHILIPS



EXTREME EXPERIENCE

Gigabyte GeForce GTX Titan X Xtreme Gaming

www.gigabyte.ph

Powered by an NVIDIA GeForce GTX Titan X GPU, the new Gigabyte GeForce GTX Titan X Xtreme Gaming is set to provide excellent performance and durability. It's built with a solid metal backplate and an aerospace-grade PCB conformal coating that protects against harsh conditions like humidity and extreme temperatures. It features a WindForce 3X cooling system with heat dissipation capacity of 700 watts, and has an alternate spinning fan design where the middle fan spins in the opposite direction as the other two.

AOC

SCRATCH IT TO WIN IT



I2769VM

27"

Key Features

- AH-IPS Panel
- LED Panel: Hg Free
- Multimedia-Ready with HDMI Input
- MHL- Mobile High-Definition Link
- Displayport
- Dynamic Contrast Ratio (DCR)
- Clear Vision
- Ultra Low Power Consumption
- Off Timer
- Eco Mode
- Wall Bracket: Yes
- VGA, MHL, HDMI, DP
- Full HD - 1920 x 1080

Prizes to be won!



Free scratch coupon for every purchase of AOC monitors.
Prizes are **NOT** Convertible to cash.

AOC model	Free
19.5", 19.53", 20.7", 21.5"	1pc scratch card
23", 23.6", 27"	2pcs scratch cards

Promo Period: November 15 to December 30, 2015



19.5"

E2070SWN

Key Features

- Dynamic Contrast Ratio (DCR)
- LED Panel: Hg Free
- 16.7 Million Colors
- Ultra Low Power Consumption
- e-Saver
- Wall Bracket: Yes
- VGA
- TN Panel
- HD - 1600 x 900



19.53"

M2060SWD

Key Features

- Full HD MVA Panel
- LED Panel: Hg Free
- Ultra Low Power Consumption
- Hair-Line Texture
- Dynamic Contrast Ratio (DCR)
- Eco Mode
- e-Saver
- Wall Bracket: Yes
- VGA, DVI
- Full HD - 1920 x 1080



20.7"

E2180SWN

Key Features

- FHD 1920x1080 High Resolution
- Flicker Free Backlight Technology
- Clear Vision
- e-Saver
- TFT Panel
- VGA
- Wall Bracket: Yes



21.5"

E2250SWDN

Key Features

- Green LED Monitor
- Dynamic Contrast Ratio (DCR)
- Eco mode
- Off Timer
- 16.7 Million of Colors
- Dynamic Colour Boost (DCB)
- Direct insert for easy plug-in
- Wall Mount: Yes
- Full HD - 1920 x 1080
- TFT Panel



21.5"

E2270SWDN

Key Features

- LED Panel: Hg Free
- Dynamic Contrast Ratio (DCR)
- e-Saver
- 16.7 Million Colors
- Wall Bracket: Yes
- VGA
- HD - 1980 x 1080
- TN Panel



23.6"

M2461FWH

Key Features

- Clear Vision
- e-Saver
- Dynamic Contrast Ratio (DCR)
- Ultra Low Power Consumption
- Eco Mode
- Multimedia-Ready with HDMI + Input
- Off Timer
- Energy Star
- Wall Bracket: Yes
- MVA Panel
- VGA, HDMI
- Full HD - 1920 x 1080



3 YEARS
Warranty
Panel

vision at Heart
aocphilippines

For more information

Service Centre: 1-800-10-633-3636

Website: www.aoc.com

Distributors: SA Global Supply Chain Solutions, Inc.

Tel: (02) 471-0888

OPPO R7 LITE

// Php 13,990



With a 13-megapixel rear camera and an 8-megapixel front-facing snapper, you can never go wrong with the OPPO R7 Lite. Capture as many memories as you want with its 16GB of internal storage, which is expandable up to 128GB via microSD. www.oppo.com/ph



MSI Z170 SLI PLUS



Boasting a low-key all-black design that encompasses both the PCB and heatsinks, the new MSI Z170 SLI Plus makes a design statement without much effort. Appearance aside, this motherboard does come with a decent selection of features. www.msi.com



RUNTASTIC MOMENT BASIC

// Php 8,888

Wherever you go, the Runtastic Moment Basic will let you keep track of time as well as your activities. This sporty smartwatch that boasts a clean design can monitor your daily steps, distance, calories burned, and sleep duration and cycles. www.facebook.com/MacpowerPH



FUJIFILM INSTAX MINI 70

// Php 6,999

Offering instant printing of your photos, the Fujifilm Instax Mini 70 will let you enjoy taking selfies even more. It is more selfie-centric with better low-light abilities than its predecessors, and comes with a self-timer function and tripod mount for easy group shots. fujifilm.com.ph



TRANSCEND ESD400

Lightweight, compact, and durable, the Transcend ESD400 SSD will let you easily store, protect, carry, and share all your digital files wherever you go. It's equipped with the next-generation SuperSpeed USB 3.0 interface with up to 1TB of storage capacity. ph.transcend-info.com



ASUS P3B

A portable 800-lumen projector with a built-in 12000mAh battery, the ASUS P3B lets you project content from various devices via its HDMI/MHL and VGA ports, onboard stage, or flash memory connected to its USB ports or microSD card slot. www.asus.com/ph



LENOVO YOGA 500

// From PhP 28,495

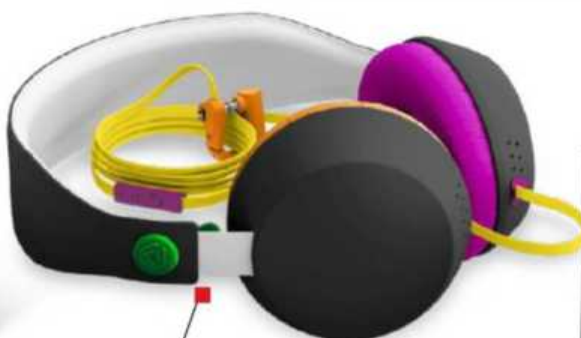
Available with a 14- or 15.6-inch Full HD touchscreen display, the Lenovo Yoga 500 supports up to a fifth-generation Intel Core i7 processor with up to 8GB of RAM and 1TB of HDD. It also offers a full Windows 10 computing experience. www.lenovo.com/ph



ZUK Z1

// PhP 15,299

Backed by Lenovo, Chinese smartphone brand ZUK has come to the Philippines to introduce its new smartphone, the Z1. It features a 5.5-inch HD display with 3GB of RAM and 64GB of internal storage, and comes with a huge 4100mAh battery. www.zuk.hk



COLOUD BOOM KIDS

The Boom Kids from Coloud has a sturdy frame that is designed for the younger ones. It has a built-in parental volume control that allows parents to set the volume at their desired level to keep children from listening to harmful volume levels. www.coloud.com



NETGEAR NIGHTHAWK X8

// US\$ 400

Powered by Broadcom's second-generation XStream platform and broadcasting three separate networks, the Netgear Nighthawk X8 tri-band router offers up to 1000Mbps with its single 2.4GHz network and up to 2150Mbps with its two 5GHz networks. www.netgear.com





LAB RESULTS

Every month, behind the doors of our super secret gadget testing facility, the latest tech products are put through their paces using industry-recognized benchmarks and our own blend of real-world usage scenarios. Here are our findings!

THE AWARDS



10



9/9.5



8/8.5



Best Performance



Best Value

Review scores of 8/8.5 are awarded the Silver Award. 9/9.5 get the Gold. ONLY a perfect 10 wins our Platinum Award.



For more comprehensive takes on the features and performance of the products reviewed here, visit HardwareZone.com.ph.

Lenovo PHAB Plus

ALL THINGS FABULOUS

If you wish to draw attention from a crowd, simply whip out a Lenovo PHAB Plus, and we guarantee that you'd get the attention that you want.

Sporting an aluminum unibody and a 6.8-inch Full HD IPS display, the new PHAB Plus looks rather big for a regular smartphone and pretty small for a tablet, but it amazingly merges the functionalities of a smartphone and a tablet in one device. If you have small hands, it will be quite challenging to use, although if you're willing to overlook its size, then you can definitely get into this device.

Remember that you can always minimize the screen by opting for the single-hand micro-screen, which lets you navigate the device using just one hand. Simply draw a letter "C" on the screen anytime you want to access the minimized display. We enjoyed this feature, since it allows us to multitask.

Great for web use and playing multimedia files with its

spacious screen, this fabulous-looking device promises smooth performance and easy navigation. You have to take note, however, that there may be an inconvenience if you want to use it as an everyday driver.

When in public and you want to make or take calls and send or receive messages, the size of the PHAB Plus can draw unwanted attention, so you may want to take extra precaution. We still recommend it, though, for traveling, since, regardless of its size, it can definitely act as your main phone as well as a tablet, preventing you from having to bring many devices all the time.

Equipped with a 13-megapixel main camera, the PHAB Plus managed to impress us by producing decent pictures, although it struggled a bit at low-light conditions. It also has a 5-megapixel front-facing camera for taking selfies. The images produced, however, tend to look grainy at times. The good thing is that, given its big screen

size, framing of selfies is much easier. Groupies also look much better than on most midrange smartphones.

The Lenovo PHAB Plus runs on Android 5.0.2, and is powered by a 1.5GHz Qualcomm Snapdragon 615 octa-core processor with 2GB of RAM and an Adreno 405 GPU. In our benchmark tests, it got acceptable scores. Considering its price, it's quite impressive. It offers a responsive interface with minimum lag when opening and switching from one app to another. Its battery, which is non-removable, has a capacity of 3500mAh. In our test, it was able to last one full working day of moderate usage, and even has extra juice to keep users going the next day with light usage.

The PHAB Plus may have a screen size that can be quite challenging, but we believe that it can still fit anyone's active and busy lifestyle.

by Ashley Lucas

AT A GLANCE

OS

Android 5.0 Lollipop

Display

6.8-inch IPS LCD
(1920 x 1080)

Processor

Qualcomm Snapdragon 615 (Octa-core, 1.5GHz)

Storage

32GB, expandable up to 64GB via microSD

Price

PhP 14,999



The loudspeaker and the main camera is located at the upper rear of the device.

CONCLUSION

The Lenovo PHAB Plus may have a screen size that can be quite challenging, but it amazingly merges the functionalities of a smartphone and a tablet in one device.

TESTED & RATED

8.5_{/10}

HWM
PHILIPPINES



Suzuki Ertiga

EAGER PEOPLE MOVER

AT A GLANCE

Engine

1.4L K14B

Transmission

4-speed A/T

Horsepower

98hp@6000 ps/
rpm

Torque

130Nm@4000 ps/
rpm

Price

Php 812,000



Adjusting the rearview mirrors can be done with tremendous ease using this knob located by the driver's side.



A button turns the air-conditioning on and off. Separate knobs adjust the temp, fan speed, and direction.



Launched with its own marketing moniker as a “Life Utility Vehicle” (LUV), the Suzuki Ertiga (2015) appears to be a cross between an MPV and an AUV, because it offers interior space comparable to that of an MPV while providing the car-like drive and maneuverability of an AUV.

Originally released locally in 2014, this odd-looking MPV is developed by Suzuki’s Japanese R&D team while it is manufactured by its subsidiary, the Maruti-Suzuki in India. Therefore, it’s truly an Asian-made vehicle for the Asian market.

This compact MPV comes with a seven-seater configuration. Upon trying it out, we found the space to be quite a squeeze especially when the car was fully loaded. The first row is reasonably spacious, and the driver’s seat is an inch higher than the front row’s passenger seat, which gives a better commanding view of the road ahead.

The driving console is ergonomically designed with the steering wheel and driver’s seat offering enough room

for adjustment. The driver can easily reach all controls, including the air-conditioning, mirrors, and audio. The gauges are simple, clear, and can be read with great ease.

Although the seats are already cushioned thinly to provide more moving space, the second and third rows have limited leg room. Furthermore, the space at the third row is quite tight, which makes it suitable mainly for small passengers. Still, it gives a comfortable ride on short road trips. However, for longer rides, adults may find it difficult to relax on the second and third rows. Yet, the generous headroom on this vehicle tries to compensate for that.

The design of the Ertiga is based on the Swift – much like a stretched version of the compact car. It is powered by the same 1.4-liter gasoline engine that produces a maximum power of 95hp at 6000rpm, a maximum torque of 130Nm at 4000rpm, and an average fuel efficiency of around 16.02km/L. Testing it during city driving yielded us an average fuel efficiency of 11.0km/L. In traffic-jammed situations, we got about 9.0km/L.

With similar engine specs as the subcompact Swift but with a bigger wheelbase and carriage, it still surprises by providing a similar fun-to-drive experience as its hatchback sibling.

However, with seven passengers onboard and additional load to carry, expect the engine to work harder than usual.

Driving the Ertiga, it felt like it was eager enough when it came to acceleration. Although its acceleration was not that rapid and there were a few times when its exhaust growled, it still drove well. Additionally, the vehicle remained stable even when taking sharp turns on zigzags and curves.

Since it’s based on the Swift, the Ertiga looks modern and stylish with a flair of pretty aerodynamic lines here and there. The high-mounted headlamps and mesh grille make it strikingly good-looking. The rest of the exterior is quite humble, as it also gives an AUV vibe with its large door openings and formal roof lines.

The car’s large doors serve another purpose aside from aesthetics, as they permit easier riding and alighting from

the vehicle. Additionally, its large windows give a sense of additional space inside.

When three rows are set in place, luggage capacity is limited to only 113 liters. The second row splits 60/40 with a fold-down armrest. When the third row is folded, it is increased to 460 liters. When the second and third rows are folded, cargo capacity is further increased to 810 liters. A slight challenge, though, comes when folding the second row, because it’s a little tough to push down.

Safety is well considered by Suzuki on the Ertiga. Some safety features included are the dual front airbags, anti-lock brake system, side impact beams, defogger, and remote control entry system on the GLX.

After testing out the Ertiga, it may have missed a few boxes on our list, but it does hit most of them. We would have wanted it to be more spacious and be quicker when it comes to acceleration, but its budget-friendly price tag is a good deal that practical drivers can appreciate.

by Katrina D. Canlas

CONCLUSION

The Suzuki Ertiga is a stylish, capable, and budget-friendly people mover. It’s crafted to accommodate up to seven people, which makes it ideal for small families who want to own a vehicle that can comfortably transport their group plus a small amount of baggage.

TESTED & RATED

8.0_{/10}

HWM
PHILIPPINES

Apple iPhone 6s and 6s Plus

A (3D) TOUCH ABOVE

APPLE IPHONE 6S

OS

iOS 9

Display

4.7-inch IPS LCD
(1334 x 750)

Processor

Apple A9
(Dual-core,
1.8GHz)

Storage

16/64/128GB

Price

From PhP 37,990

APPLE IPHONE 6S PLUS

OS

iOS 9

Display

5.5-inch IPS LCD
(1920 x 1080)

Processor

Apple A9
(Dual-core,
1.8GHz)

Storage

16/64/128GB

Price

From PhP 43,990



TAP FOR
WEBSITE 



Hard press on the keyboard when you're typing a message, and it will turn into a trackpad you can use to re-position the cursor.



The second-generation Touch ID scanner is much faster and more reliable than last year's.



Look at the specs, and you'll see that the new iPhones aren't actually completely identical to their predecessors. Both the iPhone 6s and 6s Plus are fractions of a millimeter wider, longer, and thicker than their iPhone 6 equivalents. Having said that, you won't be able to tell the difference, and if you have a case made for the iPhone 6 or 6 Plus, it will fit the 6s and 6s Plus just fine.

What is noticeable is the change in weight. Both of the new iPhones are heavier than last year's models, due to the new 3D Touch sensors and the haptic feedback engine under the display. The new iPhones are made from a stronger 7000-series aluminum. The new aluminum is tougher than last year's, which should avoid a repeat of #bendgate, but is otherwise indistinguishable.

Below the screen, the new iPhones are fitted with a second-generation Touch ID fingerprint scanner that is insanely fast. On the rear of both phones, the iSight camera has been upgraded to 12 megapixels. As before, the Plus version gets the added benefit of optical

image stabilization, and this time, it works for both videos and photos. The front camera has also been upgraded to 5 megapixels.

In addition to upgrading the camera hardware, Apple has introduced a new camera mode, called Live Photos. When it's enabled, the iPhone will record 1.5 seconds of video footage before and after you hit the shutter button. When you look at your Live Photo later, you can press and hold the photo and it will turn into a three-second looping video with audio.

The screens are the same stunning displays we saw on last year's iPhones, but this time, they can register varying levels of pressure. Apple calls this feature 3D Touch. On the homescreen, press harder than normal on an app, and a Quick Actions menu will appear with shortcuts related to that app. When you're actually inside an app, you can hard-press on web URLs, messages, maps, or images to create a "Peek" window that lets you preview that content. Press harder a second time to "Pop" that content in its related app. 3D

Touch is an amazing addition to the touchscreen interface that just makes everything more efficient and convenient.

There's a new A9 processor inside the 6s and 6s Plus. It's still a dual-core chip, but this time, the M9 motion co-processor is integrated into the chip itself. One of the benefits of having the M9 as part of the same chip is much better power efficiency, so when the M9 is doing things like counting your steps, it's draining almost no battery life at all. The other benefit of the integration is that the 6s and 6s Plus can now listen for a "Hey Siri" prompt at all times, and not just when they're plugged in to power like with older models. The A9 processor itself is quite a bit faster than the A8 found in the iPhone 6 and 6 Plus with a new 1.8GHz clock speed. The new iPhones also benefit from 2GB RAM, twice as much as the 6 and 6 Plus. In our benchmark testing, the A9 ran circles around the competition, outperforming its rivals in every single benchmark.

To compensate for the new 3D Touch technology taking up extra space inside, Apple

has had to slightly reduce the battery sizes on the new iPhones. The 6s comes with a 1715mAh battery, while the 6s Plus has a 2750mAh battery. Surprisingly, despite these reductions, both phones lasted longer than their predecessors, a testament to the power efficiency improvements Apple has made with the A9 chip. In fact, in our video looping benchmark test, the 6s managed to last longer than last year's 6 Plus, at over nine hours, and the 6s Plus lasted over eleven hours.

While the iPhone 6s and 6s Plus look exactly the same as last year's models, don't be mistaken; these are not the same phones. 3D Touch introduces a completely new way to interact with your phone that is both intuitive and incredibly useful. And it's not just 3D Touch either; the upgraded cameras and processor, the expanded RAM, the better battery life – all of these combine for what is easily the best iPhone ever. The only surprise here is just how much better they are.

by Ng Chong Seng

CONCLUSION

While the iPhone 6s and 6s Plus look exactly the same as last year's models, don't be mistaken; these are not the same phones. 3D Touch introduces a completely new way to interact with your phone.

iPhone 6s

9.0_{/10}
HWM
PHILIPPINES

iPhone 6s Plus

9.0_{/10}
HWM
PHILIPPINES



Samsung Galaxy Tab S2 8.0

OUR KIND OF SLATE

As ubiquitous and advanced Android smartphones have become, their tablet equivalents are still in an awkward limbo. While a few gems have sprouted out every now and then, there hasn't been much fight against the go-to slates of Apple. The Galaxy Tab S2 is Samsung's best attempt at a flagship tablet yet, and it's designed to impress.

This is easily the handiest and most portable 8-inch tablet we've ever had the pleasure of using. The Wi-Fi version weighs as little as 265g, and is just 5.6mm thick, which is absolutely amazing considering how meaty some phablets are these days. We're also glad that Samsung chose to use a matte plastic back on the Tab S2 instead of the glass rear of the Galaxy S6 series; it made handling the tablet so much more fun, and combined with the metal edges, assured us that it wouldn't crack at any light slight mishandling.

Samsung's usual TouchWiz skin is injected on the Tab S2's

Lollipop build – no surprises here. It's definitely less bloated than what we're used to, and we actually appreciated several of the built-in apps. Still, as much as we love the intuitive fingerprint scanner and high-resolution 4:3 display, Android continues to feel like an afterthought on tablets. Samsung tries to remedy that by allowing multitasking through multiple simultaneously opened apps, but on their own, they just look like stretched out smartphone user interfaces.

On the surface, the Tab S2 is a total pleasure to use, thanks to its Super AMOLED display and Exynos octa-core processor. The SoC is the same as the one found in last year's Galaxy Note 4, but that doesn't stop it from blazing through every app you access. With that, benchmark scores are comparable to last generation's flagship devices, and just slightly behind the Samsung powerhouses of today. Considering that a tablet's life cycle is much longer

than that of a smartphone's, we're plenty satisfied with the performance we're getting here.

With a tablet this thin and light, something has to give, and that's normally the battery's capacity. In real-world usage, it was a mixed bag. The Tab S2 excelled in long-lasting movie watching sessions, primarily because of the energy-efficient display and processor. The same didn't apply for web browsing and gaming, however, wherein the tablet would heat up rather quickly then lose energy at a fast rate. Despite that, we were still able to consistently push over five hours of screen-on time on a single charge, and standby time was notably excellent.

The price tag may be tough to swallow considering that the internals aren't exactly new, but the incredible build, first-rate display, and overall superb efficiency give the Tab S2 a solid Gold Award.

by Marvin R. Velasco

AT A GLANCE

OS

Android 5.0.2 Lollipop

Display

8-inch Super AMOLED (2048 x 1536)

Processor

Samsung Exynos 5433 (Octa-core)

Storage

32GB, expandable up to 128GB via microSD

Price

Php 24,990



The fingerprint scanner is as fast as the one found on the Galaxy S6 series and Note 5.

CONCLUSION

There's so much to like about the Samsung Galaxy Tab S2 – enough to make us forget about the relatively high price tag for the dated specs. It's now Android's tablet to emulate.

TESTED & RATED

9.0 /10

HWM
PHILIPPINES

ASUS ZenPad S 8.0

DESIGNED TO IMPRESS

Little did we know when we reviewed the original ASUS ZenFone 2 last July that it would branch out to so many new devices. Indeed, we've seen so many iterations – from the Selfie to the Deluxe to the Laser – that it's easy to forget that there's also a line of tablets based on the Zen philosophy. This is the ZenPad S 8.0, and it's currently the best ASUS tablet you can buy in the Philippines.

Before we begin talking about the actual unit, we must say that we were pleasantly surprised to find a high-quality cover bundled with the ZenPad. Anyone who's bought a fresh-in-the-market device would understand the struggle of finding a compatible case straight away, so this solves everything. With that, even without the cover, the ZenPad S 8.0 is the best-built Zen gadget we've used to date. It may be all plastic, but it's certainly a joy to hold, thanks to a 6.6mm profile and nearly 300g heft.

The pleasantries carry over to

the display, which has to be one of the best we've witnessed on an 8-inch tablet – or any mobile device, for that matter. The same goes for the audio, having two crisp speakers up front. Alas, our issue with the other Zen series products makes a reappearance on the ZenPad we have here: As feature-loaded as the ZenUI is, its bloatware and battery-draining apps still bog down the experience. You're going to spend a lot of time cleaning up the ZenPad before extensively using it, and you'll feel the burden of the software on the battery life.

If you're tech-savvy and familiar with the specs of the original ZenFone 2, then you'll notice the similarities. From the Intel Atom Z3580 to the 4GB of RAM and abundant internal storage that's expandable, the ZenPad S 8.0 is pretty much an enlarged ZenFone 2. This is good news, since you get impeccable multitasking capabilities and swift performance of the second-generation

smartphone on top of a much larger and sharper screen.

As mentioned earlier, the battery life of this ZenPad takes a hit from the erratic software. On a good week, the tablet would last over two days of moderate usage with 4.5 hours of screen-on time, while other times, we'd notice 20 percent drains without even touching it. This is something we've experienced in other Zen devices, as well, and part of it can be blamed on the Intel processor, too. We're hoping that a software update will come soon to remedy this leak.

Software ailments aside, there's very little to fault the ZenPad S 8.0. It's more than double the price of its 7-inch sibling, but the gains are more than worth it. You get a far more premium build with matching case, a chipset that can duel with current flagships, and a future-proof type-C connector for its lone USB port.

by Marvin R. Velasco

AT A GLANCE

OS

Android 5.0 Lollipop

Display

8-inch Super AMOLED (2048 x 1536)

Processor

Intel Atom Z3580 (Quad-core)

Storage

64GB, expandable up to 128GB via microSD

Price

Php 16,995



The screen-to-body ratio is 74 percent, meaning you get a lot of visuals in the space given.

CONCLUSION

The ZenPad S 8.0 has unmatched value for the build quality, display, and performance; we just wish that ASUS will finally start optimizing its software to match the hardware.



TESTED & RATED

8.5_{/10}

HWM
PHILIPPINES



AT A GLANCE

OS

Android 5.0 Lollipop

Display5-inch IPS LCD
(1920 x 1080)**Processor**MediaTek MT6795
Helio X10 (Octa-core)**Storage**16GB, expandable up to
200GB via microSD**Price**

Php 21,990



Sony decided to go for the more traditional micro-USB port rather than the newer type-C standard.

CONCLUSION

There's no doubt that the Xperia M5 Dual is a great all-arounder; the dilemma is in its pricing, placing it squarely in the premium segment. Consider the Xperia Z3 first.

TESTED & RATED

8.0_{/10}**HWM**
PHILIPPINES

Sony Xperia M5 Dual

ALMOST A FLAGSHIP

As entry-level smartphones get cheaper and the high-end handsets more expensive, figuring out what counts as a midrange device gets increasingly difficult to define. That's the case with the Sony Xperia M5 Dual, which has specs befitting of its mid-tier category, but a price in flagship territory.

Judging the Xperia M5 by its looks, we wouldn't blame you if you mistook it for the much pricier Xperia Z5. It follows the usual OmniBalance aesthetic that favors a sleek, unibody look over smaller bezels. The physique is certainly larger than most 5-inch phones, but handling it is so much comfier than previous M-series handsets, thanks to curvier edges and a flap-less micro-USB port. And yes, the M5 is still as water- and dust-resistant as all other signature Sony phones.

A neat feature is the inclusion of both a microSD and second nano-SIM card slot. Normally, you'd have to choose between

one of the two for the second slot, but with the Xperia M5, you can have both at the same time. On the software side, Sony's near-stock Android UI is present, along with a battery-saving Stamina mode and a suite of preinstalled Sony-powered apps.

Something you'll instantly notice when holding the Xperia M5 is the huge camera lens up front. It isn't just for show, as it houses a 13-megapixel sensor with an f/2.2 lens. The image quality is quite good, and works well even with group shots. As for the rear camera, the 21-megapixel sensor has great dynamic range and decent low-light performance, but we wish it wouldn't focus so slow in most situations.

We haven't experienced too many MediaTek Helio X10-equipped smartphones in our lab, so we were excited to see what the Xperia M5 could do. Real-world performance was surely top-tier, with multitasking being especially

generous in cooperation with the 3GB of RAM. Benchmark scores weren't as forgiving, with AnTuTu providing scores hovering around 40,000, which is well below several more affordable rivals, such as the ASUS ZenFone 2 and Meizu MX5.

Something that Sony often gets right is the battery life, and in the case of the Xperia M5, it's great in most instances. Standby time is definitely its strongest point, making the phone last several days on light usage. If you put the M5 through its paces, it'll nab you about four hours of screen-on time across two days.

There's no doubt that the Xperia M5 Dual is a great all-arounder; the dilemma is in its pricing, placing it squarely in the premium segment. For the price, you can afford last year's Xperia Z3, which isn't as fresh, but has more refined features that continue to make it a serious consideration to this day.

by *Marvin R. Velasco*

Sony Xperia C5 Ultra

SELFIE MASTER

Makati City has been named as the selfie capital of the world in 2014. Even though it is only a small part of the Philippine map, it still proves that a lot of Filipinos are extremely fanatic about taking selfies. This year, Sony introduced us to the Xperia C5 Ultra that promises to take us to a whole new level and satisfy our selfie cravings with its phenomenal pair of 13-megapixel front and rear cameras.

The C5 Ultra easily grabs attention thanks to its ultra-thin bezels and 6-inch IPS LCD display. The screen size might seem big on paper and even look pretty huge up close, but in our experience, we didn't have any trouble operating it using just one hand. Some users, however, may find it troublesome. Luckily, Sony added a feature that lets users resize the screen for one-handed use. By simply swiping on the screen from bottom-left or bottom-right diagonally upward, you can have a smaller screen that you

can move from left or right.

The display has a resolution of 1920 x 1080. In default mode, it looks sharp and bright even outdoors, but we felt like the colors weren't accurate. We had to configure the display settings by adjusting the white balance and selecting Mobile BRAVIA Engine 2 image enhancer. The colors improved and it looks more vivid, but it still wasn't stunning enough. We also weren't fond of the scratch-prone and fingerprint-magnet rear of the C5 Ultra. It is made of plastic and didn't feel premium, although we like the smooth feel of its rounded edges.

The Sony Xperia C5 Ultra is powered by a 1.7GHz MediaTek MT6752 octa-core processor, coupled with 2GB of RAM and 16GB of internal storage. The storage seems little, but it can be expanded up to 200GB via microSD. Everything went smooth and fluid for us, and we didn't encounter any lags. Battery performance was also great. In

our use, it lasted a full working day of moderate to heavy usage.

Compared to its predecessor, the C4, the C5 Ultra has exceptionally improved. It has more impressive specs, and even though both smartphones' front-facing cameras are coupled with an LED flash, the C4 only has a 5-megapixel sensor, while the C5 Ultra has a 13-megapixel one.

The front-facing snapper of the new Sony Xperia C5 Ultra is easily its highlight. With its wide-angle lens, we were able to take awesome selfies and groupies without any trouble, and we had fun using it. We encountered minor glitches, though, when we were using the 13-megapixel main camera, as it automatically switched to night scene in Auto mode even in barely low-light conditions. The photos tend to lose their sharpness, almost looking like an oil painting. But, overall, it was a fun experience for us.

by Ashley Lucas

AT A GLANCE

OS

Android 5.0 Lollipop

Display

6-inch IPS LCD
(1920 x 1080)

Processor

MediaTek MT6752
(Octa-core, 1.7GHz)

Storage

16GB, expandable up to 200GB via microSD

Price

PhP 17,990



Located at the upper-right corner of the C5 Ultra is the 13-megapixel front-facing camera with LED flash.

CONCLUSION

The Sony Xperia C5 Ultra boasts impressive specs and a decent price, highlighting an awesome 13-megapixel front-facing camera with autofocus and LED flash.

TESTED & RATED

8.5_{/10}

HWM
PHILIPPINES



TAP FOR
WEBSITE



AT A GLANCE

OS

Android 5.0 Lollipop

Display5.2-inch IPS LCD
(1920 x 1080)**Processor**Qualcomm Snapdragon
615 (Octa-core, 1.5GHz)**Storage**8GB, expandable up to
32GB via microSD**Price**

PhP 12,990



All physical buttons are located on the textured rear of the smartphone, right below its main camera.

LG G4 Beat

IN THE MIDDLE

LG's latest flagship smartphone, the G4, arrived with several scaled-down variants, wherein one of these is the G4 Beat. In this review, we take a quick look at what the more budget-friendly variant, G4 Beat, has to offer.

With a minimal difference in screen size, the G4 Beat comes with almost an identical appearance as its premium sibling. All the physical buttons are located once again on the rear just below the camera, which needs some time to get used to. It carries the same curved design that is enjoyable to grasp. Also, it comes with a removable rear cover and battery unit.

It sports a 5.2-inch IPS LCD display with a maximum resolution of 1920 x 1080. It has a smooth-looking interface with negligible distortion on the images that it shows. However, response rate is not buttery-smooth. There is a noticeable lag especially when loading graphics-

intensive apps and games.

The flagship G4 is, hands down, one of the best smartphones of 2015, especially when it comes to its rear camera. Thus, we can expect the G4 Beat to follow suit. On its back is an 8-megapixel eye that has similar DSLR functionality to the flagship G4. Users who aim to imitate professional-looking shots can rely on this smartphone. It has the ability to adjust aperture, manual focus, and white balance to meet the shooter's taste and preference. Although it has a less advanced sensor, it still performs well.

Inside this smartphone is a Qualcomm Snapdragon 615 processor complemented with 1.5GB of RAM. It handles multitasking well, but it chokes a bit when used for a long time with several apps, music, and games running simultaneously in the background. Still, it is nice to see a smartphone that is not pre-loaded with useless apps that bloat the device.

Running the AnTuTu benchmark on this phone, it scored 30,847. Meanwhile, it scored 22,899 on the Quadrant Standard test.

Using this smartphone in regular day-to-day activities like browsing the web, taking photos, and playing games, it gave us a day of battery life on a single charge. Subjecting it to our rigorous battery test, it yielded 7 hours and 42 minutes. Charging it took only a couple of hours to get it to full capacity.

The flagship G4 was a success but the midrange G4 Beat is having a hard time impressing us. Although it has nice DSLR-like controls, the overall performance of the G4 Beat seems to be half of what its flagship brother offers. Still, it is good to note that it provides an accurate display, clean interface, and is pleasant to handle. For those looking for a cheaper G4, the G4 Beat is an option worthy to consider.

by Katrina D. Canlas

CONCLUSION

The LG G4 Beat is a nice option for consumers who are on a shoestring budget, but want to have a G4 flagship-like smartphone with a main camera that has DSLR features.

TESTED & RATED

8.0/10

HWM
PHILIPPINES

Epson EB-X04

QUALITY THAT WON'T BREAK THE BANK

Projectors have been the preferred method of teaching and business presentations in the modern world. Some projectors, however, are relatively expensive to only use in these sectors. Epson attempts to mitigate this issue with the EB-X04.

The Epson EB-X04 has an advertised brightness of 2800 lumens white light output and 2800 lumens color light output. The lamp is an ELPLP88 with an acclaimed lamp life of over 10,000 hours under Eco mode. Located at the back is a plethora of connectivity options: one D-Sub 15-pin, Composite, S-Video, one HDMI port, one USB type-A, one USB type-B, and optional wireless support. It has a WUXGA resolution of up to 1920 x 1200 and can adjust with an aspect ratio of either 4:3 or 16:9. Zoom and freeze options are available, as well.

Out of the box, it comes with a carrying bag, VGA cable, a power cable, and remote with pointer capabilities that is

powered by two AA batteries.

The projector is incredibly user-friendly. Once turned on, it automatically detects any video source plugged in. It can also simultaneously project the screens of up to four PCs, smartphones, or any other devices connected, helping in the productivity of offices and schools, as well as eliminating the need for a second projector.

Setting up the projector is surprisingly easy. We connected it to a laptop using the included VGA cable, and it was able to automatically detect and switch to the source without any additional input from the user. There are five built-in color presets available: dynamic, cinema, presentation, blackboard, and sRGB. If none of the available options are up to par, you can manually adjust the settings on the image tab in the menu.

We tested the picture quality of the Epson EB-X04 by watching a couple of movies and displaying some documents.

We must say that based on our experience, the picture coming out of the projector is quite bright even in a well-lit room.

In order to experience the full capabilities of the projector, we turned off the lights for a more engaging experience. We did not expect much since the EB-X04 is a value-oriented product, but we were surprised at how well it performed. Colors were vivid and the contrast settings were just right so that one can still identify minute differences in color. Whites are actually white instead of having a yellowish hue, but the blacks were so bright that in dark scenes, they were a bit distracting from the action happening in the scene.

Taking all our experiences into consideration, if you are looking for a budget projector for your office or school that will not bleed your wallet dry, the Epson EB-X04 is an option that is worth looking into.

by Chester Labaco

AT A GLANCE

Resolution

WUXGA

Bulb Type

ELPLP88

Brightness

2800 lumens

Video Connectivity

1x D-Sub, Composite, S-Video, 1x HDMI

Price

PhP 26,490



Located at the front of the EB-X04 is an extendable foot for quick and easy height adjustments.

CONCLUSION

Taking all our experiences into consideration, if you are looking for a budget projector for general use that will not bleed your wallet dry, the EB-X04 is an option worth looking into.



TAP FOR

WEBSITE



TESTED & RATED

8.0/10

HWM
PHILIPPINES



AT A GLANCE

Display Type
24-inch TN

Resolution
1920 x 1080

Aspect Ratio
16:9

Refresh Rate
144Hz

Price
Php 22,900



The Dial Point Gaming Crosshair can give you an edge in FPS games by placing a crosshair in the middle.

AOC G2460PG

FREEDOM FROM SCREEN TEARING

Joining the ranks of ASUS, Acer, and BenQ, AOC has entered the G-Sync monitor market with the G2460PG. Like most current G-Sync monitors, it comes equipped with a 24-inch Twisted-Nematic (TN) panel with a refresh rate of 144Hz. NVIDIA's G-Sync technology is there to eliminate screen tearing and stutter for AOC's gaming-oriented monitor.

NVIDIA developed G-Sync to remove screen tearing and stutter from gaming. Screen tearing happens when the GPU is not in sync with the monitor, making the display show multiple frames in a single refresh cycle. Screen tearing can usually be mitigated by V-Sync. It works by making the GPU wait for the display to refresh before sending new frames to the monitor. This introduces, however, increased input lag and stuttering. NVIDIA's G-Sync technology allows the refresh rate of the monitor to follow the frame rate output of the GPU to remove screen tearing, input lag, and stuttering.

The G2460PG has a maximum resolution of 1920 x 1080, a 1ms response time, and is housed in a matte black frame. The bezels at the top and side only measure half an inch. The bottom bezel is adorned with a strip of green trim and accommodates four function buttons that are used to navigate the OSD. Two of the function buttons are used to enable and customize the Dial Point Gaming Crosshair. The remaining two buttons are used to enable the Ultra-Low Motion Blur (ULMB) technology and to open the OSD. The stand comes with swivel and pivot functions, as well as a clip-on bracket for cable management. Located at the back are one DisplayPort 1.2 port and three USB 3.0 ports (one upstream, two downstreams).

Picture settings come with five presets: Normal, Warm, Cool, sRGB, and User. Contrast, Brightness, Gamma, and separate sliders for Red, Green, and Blue are available, so you can fine-tune the display settings to your

preference if the five built-in presets are not working for you.

To test the AOC G2460PG, we connected it to a GTX 960 with the included DisplayPort cable to fully utilize G-Sync. We fired up *Counter-Strike: Global Offensive* and *StarCraft 2* to see if the panel would keep up with the fast-paced action. Based on our experience, we were unable to detect neither stutter nor screen tearing while playing. This is extremely important in the twitch-based combat of *Global Offensive* and in the intensive micro and macro of *StarCraft 2* matches.

Thanks to its 144Hz refresh rate, 1ms response time, and G-Sync module, any gamer can enjoy gaming free of stutter and screen tearing. Be it first-person shooters, real-time strategy, or any other intensive games, once you experience a 144Hz, G-Sync-compatible monitor like this one, there is no turning back.

by Chester Labaco

CONCLUSION

Thanks to the AOC G2460PG's 144Hz refresh rate, 1ms response time, and G-Sync module, any gamer can enjoy gaming free of stutter and screen tearing.

TESTED & RATED

9.0

HWM

PHILIPPINES

ASUS GeForce GTX 980 Ti Poseidon Platinum

AIR AND WATER COOLING AT YOUR DISPOSAL

The GTX 980 Ti is practically a beast in terms of gaming and graphics processing. Essentially being a cut-down version of the Titan X, it brings monstrous performance to a somewhat more manageable price.

The ASUS GeForce GTX 980 Ti Poseidon Platinum, like most GTX 980 Ti versions, comes with a GM200 core that moves data across a 384-bit bus to 6GB GDDR5 of VRAM with a memory clock of 7010MHz. It has 2816 CUDA cores and 176 texture units, while retaining the Titan X's 96 ROPs. The Poseidon has a GPU Base Clock of 1114MHz and a GPU Boost Clock of 1203MHz.

What sets the ASUS GeForce GTX 980 Ti Poseidon Platinum apart from previous versions of the GTX 980 Ti is that it sports a hybrid cooling GPU that features the DirectCU H2O, which has two dust-proof fans, three heat pipes, a large heat sink, and a built-in water block. This means that, out of the box, you can use the fans for air cooling and

connect it to your liquid cooling reservoir for additional cooling.

The card measures 287mm long, and is powered by two 8-pin PCIe connector located at the side of the card. The Poseidon has two standard G1/4-inch threaded water cooling ports at its side. At the back are three DisplayPort 1.2 ports, one DVI-I, and one HDMI 2.0 port.

In order to test the Poseidon, we connected it to our test bench, which consisted of an Intel Core i7-4960X, Gigabyte X79-UD7, ADATA SP920SS 256GB SSD, 8GB 1866MHz DDR3, and Windows 7 Ultimate 64-bit SP1.

We ran several benchmarks to test the Poseidon. For synthetic benchmarks, we ran 3DMark 2013. For real-world benchmarks, we ran *Tomb Raider (2013)*, *Metro Last Light Redux*, and *The Witcher 3: The Wild Hunt* all on 1080p.

Starting with the synthetic benchmarks on 3DMark 2013, the Poseidon got a score of 15528 on Fire Strike, 8065

on Fire Strike Extreme, and 4178 on Fire Strike Ultra.

With *Tomb Raider (2013)*, the settings were turned up to Ultimate. We achieved a minimum of 106fps and a maximum of 144fps with an average of 135.5fps. Next up is *Metro Last Light Redux*. All the settings were turned up to the highest options. We got a minimum of 27.51fps and a maximum of 149.75fps with an average of 71.28fps. Last up is *The Witcher 3*. All graphical options were set to Ultra except HairWorks, which was turned off. It yielded a minimum of 58fps and a maximum of 80fps.

The ASUS GeForce GTX 980 Ti Poseidon Platinum does not only offer herculean performance, but it also gives you options between air and water cooling. If you have the means to get the Poseidon, be sure to do so, as it will definitely give the needed power for all your needs.

by Chester Labaco

AT A GLANCE

GPU

GM200

GPU Clock

Base: 1114MHz

Boost: 1203MHz

Memory

6GB GDDR5

Connectivity

DVI-I, HDMI 2.0,
3x DisplayPort 1.2

Price

Php 40,520



The ASUS ROG GTX 980 Ti Poseidon Platinum has 2 standard G1/4 water cooling ports located at the side.

CONCLUSION

Not only does the ASUS GeForce GTX 980 Ti Poseidon Platinum offer herculean performance for the price, it also gives you options between air and water cooling.



TESTED & RATED

9.0/10

HWM
PHILIPPINES

Happy Mobile Magic Touch

BACK TO BASICS

TAP FOR
WEBSITE



Happy Mobile is a new player in the local smartphone scene. Known for its entry-level devices, its latest offering is the Magic Series composed of three Android smartphones, namely the Magic Touch, Magic Pro, and Magic. In this quick review, we take a look at the top-tier in the lot, the Magic Touch.

This 5.5-inch smartphone offers ample real estate when it comes to multimedia use and gaming. Its qHD display provides clear text and images, as well as vibrant colors, which makes using it enjoyable. It may be a bit huge, but it handles well. However, for users with smaller hands, its size and thickness make it a challenge to reach from corner

to corner with just one hand.

Inside the device is a 1.3GHz quad-core CPU, which is a bit laggy. It choked several times when multitasking, especially with graphics-heavy apps. Despite the heavier instances, it still functioned well when simply messaging and browsing. With moderate use, its 2200mAh battery lasted almost a day on a single charge.

It carries a 13-megapixel rear shooter that captures clear and bright images. Even the quality of images taken indoors is quite good. However, loading the camera app has noticeable delay. Also, when used for quite some time, the camera app tends to be less responsive. A quick

workaround is to restart it.

With what the Magic Touch offers, it appears that Happy Mobile has a lot of ground to cover. Let's see what improvements its future devices may bring.

by Katrina D. Canlas

TESTED & RATED

7.0/10

HWM
PHILIPPINES

AT A GLANCE

OS

Android 4.4.2 KitKat

Display

5.5-inch IPS LCD
(960 x 540)

Processor

MediaTek MT6582

Price

Php 5,999

Genius SP-925BT

360-DEGREE SOUND

TAP FOR
WEBSITE



Arriving in a raised cube form factor, the Genius SP-925BT is a portable Bluetooth speaker that reproduces sound on two sides. It is known to deliver a 360-degree audio experience, which amps up your audio listening compared when you merely use traditional front-facing speakers.

This speaker has a plain and straightforward design that can easily fit anywhere. Clad in black, its body is encased in hard plastic, which still feels durable. The power, next, back, and volume buttons are located on the top part of the speaker, while the auxiliary and micro-USB ports are located at the back. A small hole serves as the microphone for this speaker, allowing hands-free calls.

On the outside, it may look like your average speaker, but

Genius has actually engineered it meticulously to fit it with 50mm drivers and a subwoofer for extra bass projection. The subwoofer is located at the bottom, just before the gap, to resonate the bass better.

It features Bluetooth 4.0 connectivity and dual-stereo pairing to amplify the audio from a smartphone or a tablet when listening to music or watching a movie. Testing it out with a smartphone, it paired instantly and seamlessly. Even with the phone taken a few meters away from the speaker, the pairing remained and audio was augmented properly. Music was audible and quality was good.

This speaker has a built-in battery so you can use it even outdoors. When charged fully, it lasts for three to four

hours on playback. To charge it, simply link the micro-USB connector to a power source.

The Genius SP-925BT is a convenient speaker that you can use for an enhanced audio experience on the go. Its compact size makes it easy to bring with you anywhere to enjoy stunningly clear sound.

by Katrina D. Canlas

TESTED & RATED

8.0/10

HWM
PHILIPPINES

AT A GLANCE

Type

Bluetooth Speaker

Connectivity

Bluetooth 4.0, micro-USB, 3.5mm AUX

Dimensions

98.3 x 99.3 x 98.5mm

Price

Php 2,650

Plantronics BackBeat Fit

A FITNESS ENTHUSIAST'S MUST-HAVE

TAP FOR
WEBSITE 



Lightweight, easy to use, and provides premium sound, the Plantronics BackBeat Fit is a cool pair of sports headphones that fitness enthusiasts will surely enjoy.

We're not sure if the majority of fitness enthusiasts experience this whenever they work out with regular headphones, but in our own experience, when we use regular headphones that are not waterproof or sweatproof, we always encounter electrocution. The current may not be that high, but there is still this weird zing that we feel and don't appreciate.

Using regular headphones during workouts felt like we were generously inviting electric current to flow into

our bodies. When we saw the BackBeat Fit, we knew that we finally found a solution to our problem. We already reviewed a few sports headphones before, but this one looks more lightweight and durable.

We went running using this pair of sweatproof wireless headphones. Bluetooth pairing was easy; there's a female voice that will inform you if you're connected or disconnected, or when the volume is at maximum or minimum, so you won't have to double-check on your phone. We like the fit, and it felt comfortable on our ears. There's this weird cord, however, that sorts of hangs loose on our back, and it felt quite annoying

at some point during our run.

Overall, we felt like the Plantronics BackBeat Fit is a suitable addition to one's fitness arsenal. In terms of audio quality, it definitely knows how to properly deliver.

by *Ashley Lucas*

TESTED & RATED

8.5_{/10}

HWM
PHILIPPINES

AT A GLANCE

Type
Bluetooth Headphones

Frequency Response
50 - 20000Hz

Colors
Green, Blue

Price
Inquire

Active Eye Pro-30

AFFORDABLE ACTION CAMERA

When the Active Eye Pro-30 arrived in our lab, we thought we were looking at an entry-level GoPro. The boxy-type design made them look almost identical, although a closer inspection revealed how different they actually are.

Generally, GoPros have this compact and tough look to them, but the Active Eye action camera we have looks lightweight and not that strong, easily giving away its affordability. It's a good thing that it's budget-friendly, although it made us a little worried about how it would perform and deliver.

The Active Eye Pro-30 flaunts a 2-inch HD TFT display that gives you a preview of your recorded actions. On the right side of the display is the menu button, and on top are the power, mode,

and OK buttons. These buttons will aid you when choosing image and video resolutions and allow you to choose from Car, Video, and JPG modes. It also comes with several mounting accessories, such as a waterproof case, helmet mount, shield, remote control, and handlebar seatpost mount.

Using the waterproof case to protect the Pro-30 and a selfie stick, we recorded videos using different resolutions in different circumstances. Set at the highest video resolution, which is 1080p at 30fps, the videos we recorded appeared great with vivid details; color accuracy was a little off, though. Meanwhile, the shots we took at 12 megapixels had this strange color to them as well, but, overall, they were acceptable.

The Active Eye Pro-30 proves to be a good substitute if you want to get into action at a low cost, because recording your adventures doesn't always need to be pricey. You must take note, though, that there might be some missed shots and unwanted results that you may encounter in the long run.

by *Ashley Lucas*

TESTED & RATED

7.5_{/10}

HWM
PHILIPPINES



AT A GLANCE

Type
Action Camera

Display
2-inch HD TFT

Resolution
1080p (30fps),
720p (30fps or 60fps)

Price
Inquire



NATIONAL SWEETHEART

With her sweet, innocent-looking face that anyone can relate to, Suzy Bae is now ready to make a bold statement and reach out to all tech-savvy millennials!



Born in the northern part of the city of Gwangju in South Korea, Bae Su-ji or Suzy has come a long way in terms of success and talent. If you love Korean Pop (K-Pop) or Korean Drama, you've most likely heard of this 21-year-old sweetheart who continues to captivate massive crowds in Southeast Asia with her talent and charisma.

Suzy has gained huge popularity due to her acting and singing skills. In 2009, Suzy entered a talent show contest; unfortunately, she was eliminated after the preliminary round. Undeterred and determined to find her big break, she joined the K-pop girl group Miss A after a year. Soon, she started hosting several shows and events. Later on, she made her acting debut, and since then has done numerous TV projects and films that pushed her to become the "national sweetheart" of South Korea.

This year, Suzy has been signed as the newest Southeast Asian ambassador for the new PHAB line under the technology company Lenovo. Bringing with her the popularity that sees no boundaries, Suzy traveled more than a thousand miles to the Philippines to share her fabulous life and meet her Filipino fans. With her sweet, innocent-looking face that anyone can relate to, we're absolutely certain that Lenovo has picked the right person to make a bold statement and promote its brand.





For the first time, an excited Suzy got to see her supportive fans in the Philippines during the launch of Lenovo's latest smartphone, the PHAB Plus. Representing the youth, the singer and actress, who has won numerous singing and acting awards both local and international, is now ready to reach out to all tech-savvy millennials who crave to find the perfect device that will suit their busy and active lifestyle.

Suzy is one of the first few people who got to try out the latest PHAB Plus. Asked how she feels about being the Southeast Asian ambassador for the new Lenovo PHAB line, Suzy revealed that she loves it and is "very happy" about it, particularly that she is now part of an "exciting brand" that is popular among millennials.

For someone who works under the limelight, always moves in front of the camera, and travels a lot, Suzy believes that the PHAB Plus perfectly suits her lifestyle.

According to Suzy, she uses the PHAB Plus to "play games, review videos, read the news, and catch up with family and friends." Since it functions both as a phone and a tablet, the young singer and actress shared that it keeps her from having to bring many devices all the time.

What features does Suzy like the most about the new PHAB phone? According to her, it "packs all the fun and cool features of a phone and tablet," and the HWM Team definitely agrees with her.

From a simple girl who started her career in modeling for online shopping catalogs, Suzy is now ready to make the next big step. After finding success in her homeland and across different countries, she is now here in our country to make a bold statement and reach out to all tech-savvy millennials.

Suzy thinks that Filipinos "are very warm and hospitable." We, in return, couldn't help but gush about her beauty and sweet personality. With this in mind, we certainly believe that she is the right ambassador who millennials can easily relate to.

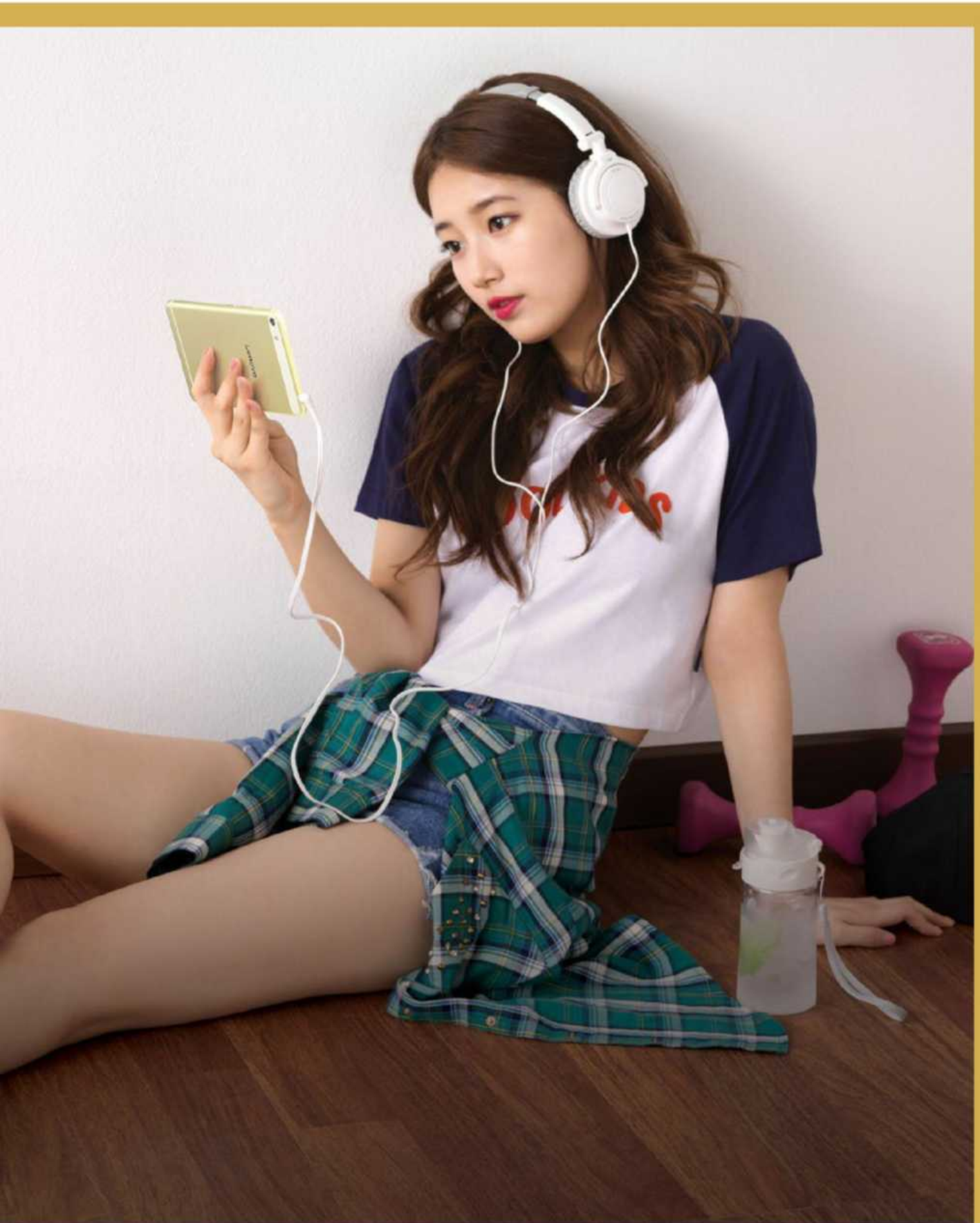


//

Hello, Filipino fans!
Thank you so much
for your love and
support. Though
I can't see you
frequently, I will use all
the love that you have
given me to do better
and to never stand still
on my achievements.

//





CLASH OF THE MEGAPIXEL MONSTERS

Today's full-frame DSLRs are pushing the limits of what was previously thought possible on a 35mm format digital sensor with resolution numbers on par with Medium format digital backs. We put these three top cameras to the test.

Text by *Marcus Wong*
Photography by *Zaphs Zhang*
Art Direction by *Ken Koh*



VS
CANON EOS 5DS R
•
NIKON D810
•
SONY A7R II

BIG SCREEN. POCKET SIZE.

An affordable phablet for anyone on-the-go



Powered by Android™ 5.1 Lollipop and available in Tuxedo Black, Polar White, Aqua Blue.

Phone + Tablet =
PHAB



HUGE HD DISPLAY

The huge 6.98" HD screen displays all your media with amazing color and clarity.



ONEHAND CONVENIENCE

The unique OneHand software of Lenovo™ makes it easy to control all the PHAB functions with one hand.



IMMERSIVE SOUND

Need not to shout in a cafe anymore, thanks to 360° voice, which delivers clear voice pickup.



ALL-DAY BATTERY

Go all day with Lenovo™ PHAB, with its 4250 mAh battery for 24 hours of talk time.

KEY FEATURES

- Qualcomm® MSM8916 (1 GB RAM, Quad Core™, 64-bit, 1.2 GHz)
- 6.98" HD (1280 x 720)
- Rear Camera: 13 MP Auto Focus with Flash
- Front Camera: 5 MP
- SIM: Dual Micro Sim Slot
- 4250 mAh Battery

#PHABulous

#goPHAB

CANON EOS 5DS R

When Canon announced the release of the 5DS, it came in two versions, the EOS 5DS and the EOS 5DS R, the latter being one without a low-pass filter for optimum resolving power. The headlining feature for both cameras is, of course, a new 50-megapixel sensor, which essentially puts medium format-level resolving capabilities in a 35mm format DSLR.

Compared to the Nikon D810 and the Sony A7R II, the EOS 5DS R feels a bit more solidly built, but is actually slightly lighter and smaller overall than the D810. The interface will be very familiar to Canon users, and while a little less intuitive than both the D810 and A7R II due to the extra number of presses needed, offers the handy Q menu that lets you easily adjust all the main settings.

Canon has included "M-Raw" and "S-Raw" capture formats that essentially give you a down-sampled version of what's captured by the camera. However, it doesn't seem as though shooting in these formats

speeds up the camera in any way. The top continuous shooting frame rate remains at 5.0fps regardless, so there doesn't seem to be an advantage to shooting in either of the smaller RAW versions, other than the fact that you'll gain more storage space on your card if needed.

The Auto ISO function is now similar to what's in the 7D Mark II, so you can pre-set a minimum shutter speed to allow before the ISO is increased, or set it to Auto and bias the selection to pick a faster (or slower speed). The camera uses the 1/focal length formula for choosing shutter speeds, so we'd recommend adjusting that in the settings if you go with Auto.

You'll also find a slightly different slew of connectors from the previous 5D Mark III, as the 5DS R gains a USB

3.0 port at the expense of a headphone socket. This probably affects movie makers more, but you do gain the ability to take time-lapse movies, thanks to the implementation of an intervalometer.



Simply the most resolution you can get from a 35mm sensor.



Lacks a headphone socket for audio monitoring during video recording.



TAP FOR
WEBSITE

AT A GLANCE

Sensor

35mm full-frame CMOS

Resolution

50.6 megapixels

Dimensions

152.0 x 116.4 x 76.4mm

Weight (w/ batteries)

930g

Price

PhP 167,998 (Body only)



The M-Fn button can be a little difficult to reach without looking.



All the connectivity ports are hidden behind two rubber flaps.



The familiar mode dial is found over the power switch.

NIKON D810

A year after its release, the Nikon D810 offers no real surprises by now, but remains very much a steady performer by which the mark for high-megapixel photography in 35mm DSLRs was once set. We're somewhat surprised to see that it's now one of the larger contenders in this category – and for that note, the heaviest – as the camera itself never stood out for its size. What it did stand out for was the fact that it was the first full-frame Nikon DSLR to ship without an optical low pass filter (OLPF) for optimum resolving power.

It retains the excellent layout from the D800/D800E before it, which means you can change most settings by holding down a single button and turning the control dial. Not having to dive into menus certainly helps, but we do wish Nikon made more use of the “i” menu, as it doesn't seem as though there is a way to customize the functions selectable.

One thing that is greatly improved from the D800/D800E is the new mechanical shutter and balancer that

control the shutter. Where the old models were fairly prone to shake from shutter slap at lower speeds, the D810's shutter feels noticeably quieter and gentler. There's a nice deep handgrip, and all the ports are individually covered by rubber flaps for better weather protection.



New shutter is a nice improvement, giving better damping.



Imaging processor seems slower compared to the others.

On the software front, the D810 implements a new Split-Screen Display zoom function that lets you simultaneously view two points in a split screen, allowing you to accurately level the camera. It also gained the group-area AF mode from the D4S before it, letting you use five focus points simultaneously to quickly determine focus.

You could say that the D810 is Nikon's most serious attempt at incorporating video to date, as they added stereo microphones, a power aperture function to change aperture without interrupting video, and features like Zebra display in Live View. They also shifted the mode button further away from the record button, making it easier to access.

AT A GLANCE

Sensor

35mm full-frame CMOS

Resolution

36.3 megapixels

Dimensions

146.0 x 123.0 x 81.5mm

Weight (w/ batteries)

980g

Price

PhP 151,000 (Body only)



TAP FOR
WEBSITE



The **i** button draws up the menu to change some basic settings.



Each port is hidden between a dedicated flap.



Each of the main functions are assigned to a shortcut key.

SONY A7R II

The A7R II follows after the original A7R with a newer high-resolution 42.4MP sensor, and a 5-axis image stabilization built into the camera body. That new sensor makes the A7R II the highest-resolution mirrorless system camera on the market and effectively lets it leapfrog over the D810 for second place in the resolution race.

Having probably the largest backside illuminated (BSI) CMOS sensor in the market, the A7R II gains much improved high ISO performance that simply goes beyond the competition. Where the A7R could only go up to ISO 25600, the A7R II now boasts the ability to boost up to ISO 102400.

Compare this to the Nikon D810A and the Canon EOS 5DS, which only go up to 51200 and 12800 (after boost), respectively, and you certainly have to admit that Sony has probably made a smart decision in not trying to push the numbers as far as resolution goes.

The A7R II gains the same handling improvements

as the A7 II, with a deeper handgrip and the slight change to the control dial layout, allowing for better placement of the shutter button and the inclusion of more custom function buttons. These seemingly small changes really made a difference to the overall

handling, as we were able to get the camera more stable without having to fumble for the shutter button.

Another welcome change would be the new electronic viewfinder, which gives a magnification of 0.78x – the highest of any full-frame camera in the market at present.

On the video front, the A7R II also gets an upgrade, now being able to record 4K (3840 x 2160 resolution) video internally. No ISO limits have been placed on video recording either, so you can go up to the camera's max ISO 102400 and

still have the benefit of 5-axis stabilization with any lens. Match that with the improved autofocus system that's sensitive from EV-2 to EV20 and you have a highly versatile camera for both stills and video.



In-body stabilization gives greater flexibility when using the camera handheld.



Lots of color noise above ISO 6400. recording.



TAP FOR
WEBSITE

AT A GLANCE

Sensor

35mm full-frame
Exmor R CMOS

Resolution

42.4 megapixels

Dimensions

126.9 x 95.7 x 60.3mm

Weight (w/ batteries)

625g

Price

PhP 154,999 (Body only)



There's a lock button on the mode dial for changing modes.



We still think the record button is still a little hard to access.



The Fn button brings up a handy menu for quick changes to settings.

CANON EOS 5DS R

We must admit that coming into this shootout, we expected the EOS 5DS R to be the most sluggish camera of the lot, given the sheer amount of data it would have to move per shot. To our pleasant surprise, that wasn't the case at all. The rated continuous shooting rate for the 5DS R is five frames, which is actually quite an impressive achievement. Despite having to move about 50 megapixels with every shot, the camera was fairly responsive, and the buffer for continuous shooting certainly seemed adequate for most types of photography. Canon has listed its shooting performance as 31 frames on JPEG Large/Fine and 12 frames on RAW, which are certainly serviceable numbers. Autofocus was also generally fast and accurate even in low-light situations, and the amount of detail you got in every shot was certainly the most we've seen from any 35mm-format DSLR.



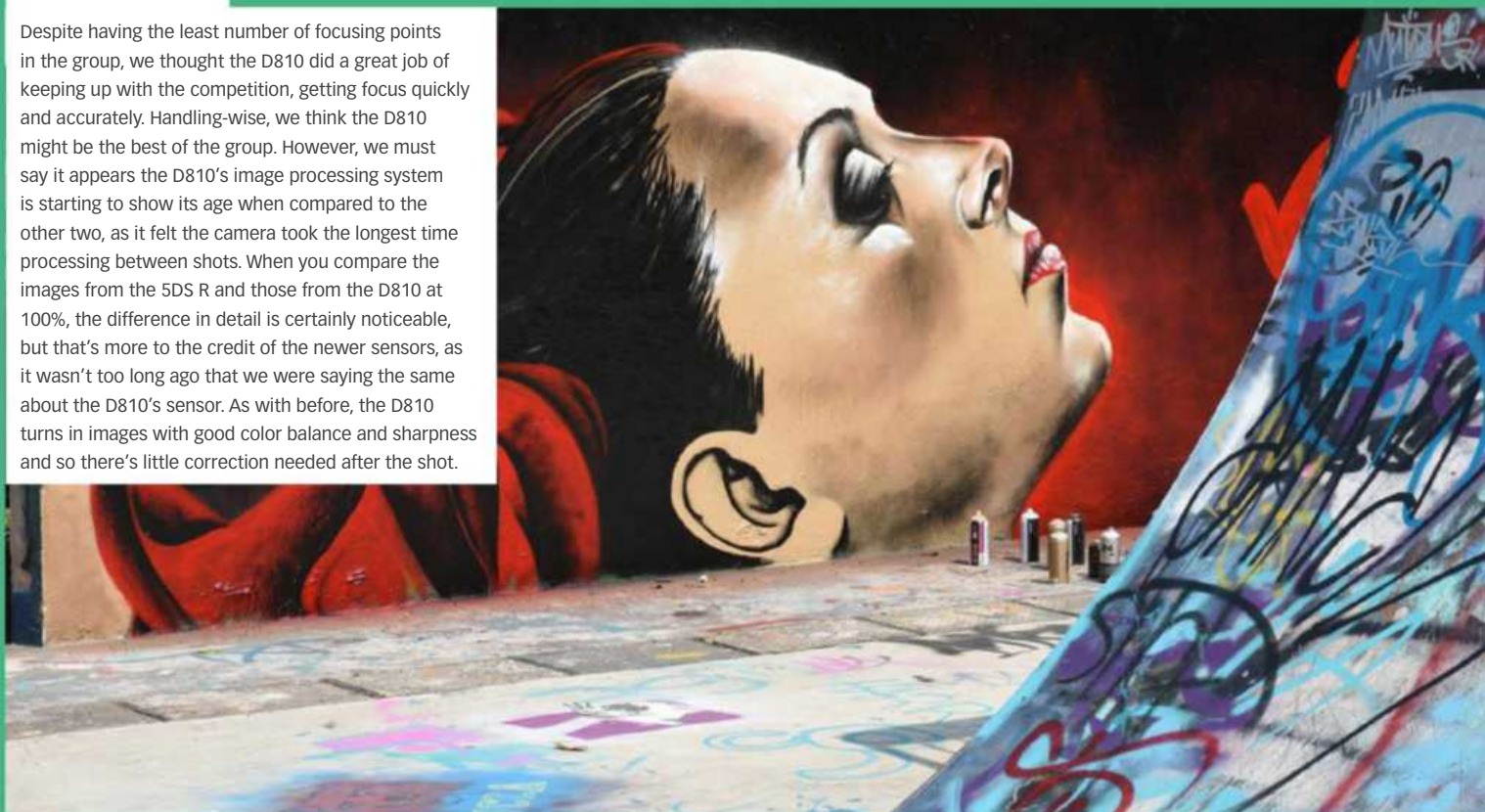
The texture of the underlying wall is clearly visible in the image captured by the 5DS R.



ISO 6400 is the highest we'd go with this camera after sharpening.

NIKON D810

Despite having the least number of focusing points in the group, we thought the D810 did a great job of keeping up with the competition, getting focus quickly and accurately. Handling-wise, we think the D810 might be the best of the group. However, we must say it appears the D810's image processing system is starting to show its age when compared to the other two, as it felt the camera took the longest time processing between shots. When you compare the images from the 5DS R and those from the D810 at 100%, the difference in detail is certainly noticeable, but that's more to the credit of the newer sensors, as it wasn't too long ago that we were saying the same about the D810's sensor. As with before, the D810 turns in images with good color balance and sharpness and so there's little correction needed after the shot.



Despite having the lowest megapixel count, there's still plenty of detail in the D810's images.



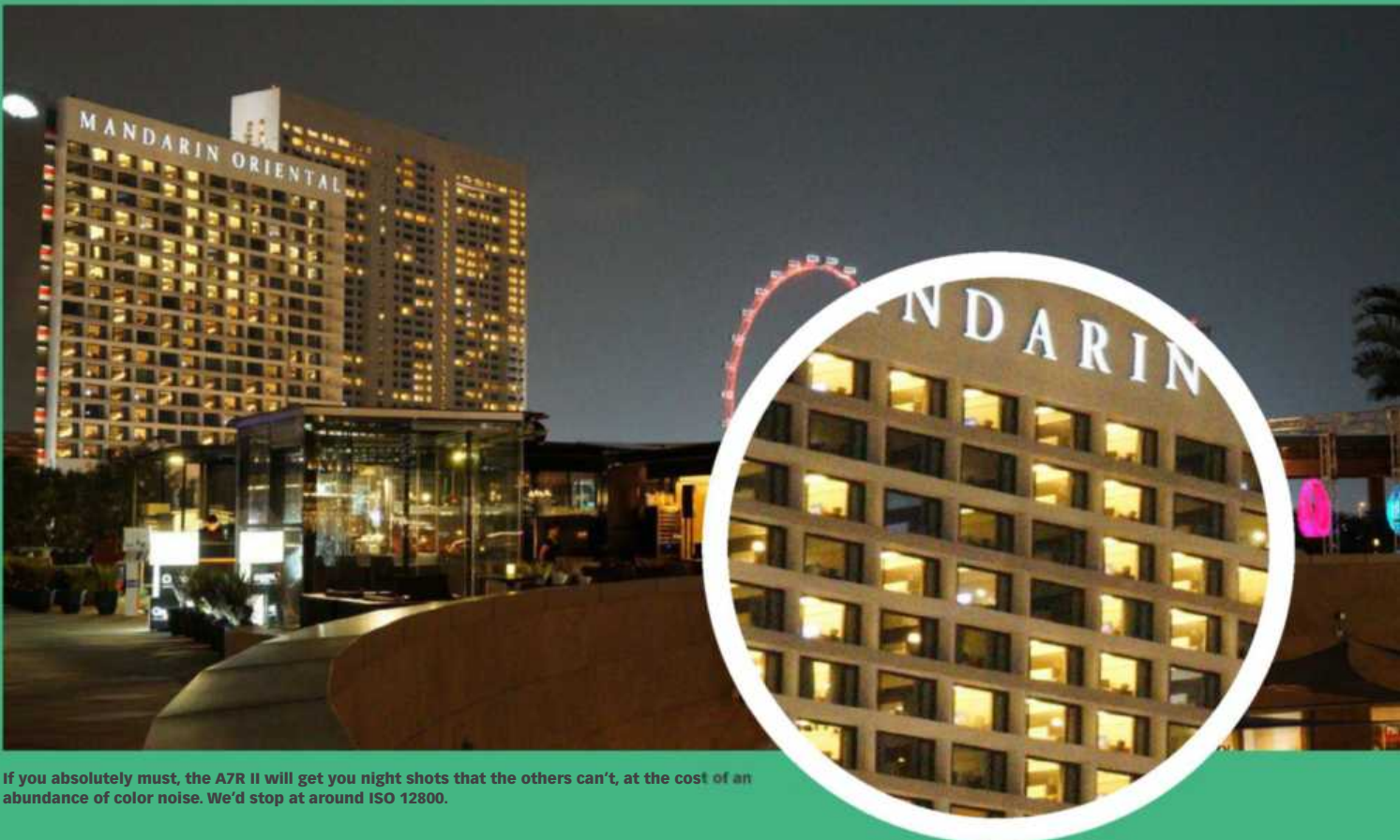
The highest we'd push the D810's sensor up to is 12800, and that's with sharpening in post.

SONY A7R II

The A7R II's autofocus (AF) system is much improved, with on-sensor phase detection for faster AF performance and a total of 399 phase-detect autofocus points spread across the frame. Needless to say, the AF performance was right up there with the rest, and the camera itself was certainly a speedy performer. One thing we did notice was that in very bright daylight, the electronic viewfinder seemed to be a bit lacking compared to the traditional optical viewfinders on the other two in terms of the brightness and contrast needed to reflect the details in the scene accurately. In terms of resolution, though, we'd say the A7R II is right up there with the 5DS R, with the 5-axis stabilization coming in handy at slower shutter speeds. One thing we did notice, however, is that the camera seemed to turn in images that were slightly bluish, meaning you'll have to apply a bit of color correction to be accurate.



The A7R II's images have a slight tinge of blue compared to the others.



If you absolutely must, the A7R II will get you night shots that the others can't, at the cost of an abundance of color noise. We'd stop at around ISO 12800.



MODEL	CANON EOS 5DS R	NIKON D810	SONY A7R II
MOUNT	Canon	Nikon	Sony
FOCAL LENGTH MULTIPLIER	1.0x	1.0x	1.0x
SENSOR	35mm full-frame CMOS	35mm full-frame CMOS	35mm full-frame Exmor R CMOS
SENSOR SIZE	36.0 x 24.0mm	35.9 x 24.0mm	35.9 x 24.0mm
EFFECTIVE PIXELS	50.6 megapixels	36.3 megapixels	42.4 megapixels
ISO SENSITIVITY	100-6400 (expandable to 50-12800)	64-12800 (expandable to 32-51200)	100-25600 (expandable to 50-102400)
NUMBER OF FOCUS POINTS	61 (41 cross-type)	51 (15 cross-type)	399 phase-detect AF (25 contrast-detect AF)
MAXIMUM SHUTTER SPEED	1/8000	1/8000	1/8000
MAX CONTINUOUS FRAME RATE	5fps	5fps	5fps
MAX BURST	JPEG Fine: 31 shots (for approx. 510 shots) Raw: 12 shots (for approx. 14 shots)	-	JPEG Extra fine L: 24 frames RAW: 23 frames
MAX MOVIE RESOLUTION	1920 x 1080, 29.97fps	1920 x 1080, 60fps	3840 x 2160, 30fps
MONITOR	3.2" TFT LCD, Approx. 1.04 million dots	3.2" TFT LCD Approx. 1.23 million dots	3.0" TFT LCD Approx. 1.23 million dots
SIZE	152.0 x 116.4 x 76.4mm	146.0 x 123.0 x 81.5mm	126.9 x 95.7 x 60.3mm
WEIGHT (INC. BATTERIES)	930g	980g	625g
PRICE	Php 167,998 (Body only)	Php 151,000 (Body only)	Php 154,999 (Body only)

AND THE BEST HIGH-RESOLUTION CAMERA IS...



SONY A7R II

All three of these cameras are absolute workhorses that will produce images with more than enough detail for a professional photographer, and all have proven to be very capable tools for a variety of situations. Where the A7R II stands out then is in the overall performance and greater suite of video capabilities. It certainly out-resolves the Nikon D810, while not lagging too far behind the Canon 5DS R. While our tests show that the actual usable ISO sensitivity for the camera hovers at ISO 6400 due to the abundance of color noise that appears, it isn't any worse off than the rest. What gives it an edge in terms of real-world imaging capabilities and practicality is its 5-axis in-body stabilization and the ability to record 4K video in-camera with a host of dedicated video functions.



VS
ASUS STRIX GEFORCE
GTX 950
GIGABYTE GEFORCE GTX
950 XTREME GAMING
MSI GEFORCE GTX 950
GAMING 2G



MOBA WARRIORS

These budget-oriented graphics cards are designed for players of competitive multiplayer online battle arena games like Dota 2 and League of Legends. They all offer great bang for your buck, but which will help your Shadow Fiend reap the most numbers of souls on the battlefield?

Text by *Koh Wanzi*
Photography by *Veronica Tay + Angela Guo*
Art Direction by *Ian Chong*

ASUS STRIX GEFORCE GTX 950

The ASUS Strix GeForce GTX 950 is a familiar sight, with a similar design aesthetic as other Strix-branded cards we've reviewed. At 220mm long, it is also the most compact card of the lot, so that's something going in its favor if you are going to be building an ultra-compact mini-ITX system.

It ships out of the box in OC mode, with a base clock of 1165MHz and boost clock of 1355MHz. The card's Gaming mode comes with slightly less aggressive clock speeds, with a more modest 1140MHz base clock and 1329MHz boost clock.

Cooling is handled by the dual-fan DirectCU II cooler, instead of the newer triple-fan DirectCU III. The decision to use the older cooler was probably motivated by the shorter PCB of the GeForce GTX 950 and lesser need for aggressive cooling. Still, the cooler is no lightweight, and two thick 10mm heatpipes help to channel heat away from the GPU die.

The fans utilize the wing-blade design for reportedly better airflow and static pressure, and are also able to stop spinning entirely under low loads, keeping noise to a minimum. This feature has

become a staple on modern graphics cards, and is now so commonplace that its absence would be more remarkable than its inclusion even on a budget card like the GeForce GTX 950.

When it comes to display connectors, ASUS has actually diverged from the reference specifications.

It has cut down on the number of DisplayPort connectors, and instead implemented only two DVI ports (one DVI-I, one DVI-D), one HDMI port, and just one DisplayPort connector. Frankly, no one's going to be running multiple DisplayPort monitors off this card, so there's no real loss here.

Power is delivered via a single 6-pin PCIe connector, the same as the reference specification. Despite being based on the same GM206 GPU as the GeForce GTX 960 – albeit a cut-down version with

disabled SMs and 25% fewer CUDA cores – the card has a lower Thermal Design Power (TDP) of just 90 watts that should be supplied quite happily by a small 350-watt power supply.

The card also does not have a metal backplate, likely another cost-saving measure to help it appeal to more budget-conscious gamers.



Exceedingly compact size good for ultra-compact builds.



Runs the hottest out of all three cards.



TAP FOR
WEBSITE

AT A GLANCE

GPU Transistors

2.94 billion

Core Clock

1165MHz

Memory

2GB GDDR5

Memory Clock (DDR)

6612MHz

Price

PhP 9,670



The card features an extra DVI-D port compared to its competitors.



Two thick 10mm heatpipes channel heat directly away from the GPU die.



The semi-passive fans can power down entirely during low loads.

GIGABYTE GEFORCE GTX 950 XTREME GAMING

This card is the first graphics card from Gigabyte to bear the Xtreme Gaming branding, and it represents a departure from the slew of WindForce-branded cards that we've been reviewing so far.

The new Xtreme Gaming series of cards are designed for better overclocking performance, and are manufactured using Gigabyte's GPU Gauntlet Sorting technology to cherry-pick chips for better power efficiency and overclocking capability. As we'll see later in the results section, there just might be something to this, as the Gigabyte card was able to achieve the highest overclocks out of all three tested cards. It is also the highest clocked card of the lot, with a base clock of 1203MHz and boost clock of 1405MHz.

However, it still uses the dual-fan WindForce cooler, although the cooling shroud now features accents of silver instead of a stealthy all-black design. Other similarities with previous WindForce-branded cards include the fans, which still feature a triangular protrusion and raised striations to increase airflow and, according to Gigabyte, better direct air through the fan. It goes without saying that these are also semi-passive fans

that can stop spinning entirely during low loads.

Around the side of the card, an LED-illuminated WindForce logo can be customized from up to seven different colors via Gigabyte's OC Guru II utility. The logo is flanked by two LED-backlit "Silent" and "Stop" indicators, both of which will light up when the fans stop spinning.

When it comes to display connectors, the card has gone with the reference specification, with three DisplayPort connectors, one DVI-I port, and one HDMI output. Power is supplied via a single 8-pin PCIe connector, the only card in our shootout to require more than a 6-pin connector. This is probably intended to bolster the card's overclocking capabilities.

Finally, the card is equipped with a brushed metal backplate with four industrial-looking screws at the center that we quite like. Again, the Gigabyte card distinguishes itself as the only card in our lineup to feature a backplate. We were actually pleasantly surprised to find a backplate on a budget card like this one, and it's nice to see certain premium features finding their way onto more affordable cards such as the GeForce GTX 950.

+
**Best performance
out of the lot.**

-
**High clock speeds
mean it consumes the
most power.**

AT A GLANCE

GPU Transistors
2.94 billion

Core Clock
1203MHz

Memory
2GB GDDR5

Memory Clock (DDR)
7000MHz

Price
US\$ 179.99



The card is the only one in the shootout to feature a metal backplate.



Unlike the ASUS and MSI cards, it is powered by an 8-pin instead of a 6-pin power connector.



The fans are similar to those found on previous WindForce-branded coolers.



TAP FOR
WEBSITE 

MSI GEFORCE GTX 950 GAMING 2G

The MSI GeForce GTX 950 Gaming 2G is the largest card of the lot. At 270 x 137 x 37mm, it is longer and wider than both the ASUS and Gigabyte cards.

These dimensions aren't going to be a problem for most cases, but users who want a cheap build with the smallest possible space footprint may find themselves more inclined towards the smaller offerings. The card's bulk is probably due to MSI's desire to accommodate the two larger Torx fans, which are a fair bit bigger than those of its counterparts.

The Twin Frozr V cooler on this card shares the same red-and-black design as other cards in MSI's Gaming series. The two Torx fans can also operate independently of each other, giving the card finer control over both noise and temperature.

The card ships in OC mode, with a base clock of 1127MHz and boost clock of 1317MHz. For less heat and noise, users can opt to switch to Gaming mode, which has a base clock of 1102MHz and boost clock of 1279MHz. Alternatively, there's also Silent mode, which takes the card down to reference speeds with a 1026MHz base clock and 1190MHz boost clock.

As it stands, MSI has the most number of modes for users to choose from, and they can toggle between all three via the MSI Gaming App.

The MSI Gaming dragon insignia on the card's side can also be customized with one of five lighting effects – No Animation, Breathing, Flashing, Double Flashing, and Random – to suit your preferences. It's not much, but it's a nice touch for users who want a little control over their card's aesthetics.

In the way of display connectors, the card adheres to the reference design with three DisplayPort connectors, one DVI-I port, and one HDMI output. A single 6-pin PCIe connector, the same as the ASUS card, powers it.

This card lacks a metal backplate. Normally, that wouldn't be a cause for much comment as this is intended to be a budget card. But given that Gigabyte has raised the bar on budget card features with the backplate on the Xtreme Gaming, we couldn't help but think that the MSI card could use a backplate, especially given that it is longer and wider than its counterparts and could use the extra structural support.

+
Good cooling performance.

–
Lowest clock speeds among all compared cards.



TAP FOR
WEBSITE 

AT A GLANCE

GPU Transistors

2.94 billion

Core Clock

1127MHz

Memory

2GB GDDR5

Memory Clock (DDR)

6652MHz

Price

US\$ 159



The Torx fans on the Twin Frozr V cooler are the largest in this shootout.



The cooling shroud sports the same red-and-black theme as other cards in MSI's Gaming series.



Like the ASUS card, the MSI card is powered by a single 6-pin PCIe connector.

Crysis 3 (Ultra settings, no AA)

(Average FPS, higher is better)

Thanks to having the highest clock speeds, the Gigabyte GeForce GTX 950 Xtreme Gaming unsurprisingly took the lead in our gaming tests. At a resolution of 1920 x 1200 with anti-aliasing turned off, the difference between the Gigabyte card and its competitors was around five percent. The ASUS and MSI cards actually performed very similarly, coming within a frame of each other in all of our tested settings.

■ 1920 x 1200

■ 2560 x 1600

ASUS STRIX GEFORCE GTX 950



GIGABYTE GEFORCE GTX 950 XTREME GAMING



MSI GEFORCE GTX 950 GAMING 2G



Overclocking

(3D Marks, higher is better)

The Gigabyte card again put out the best performance in our overclocking tests. We were able to achieve a base clock of 1283MHz, which translated to a boost clock of 1485MHz.

For memory, we were able to push it to an effective clock rate of 7080MHz, which is fairly impressive, given the already high out-of-the-box speed of 7000MHz.

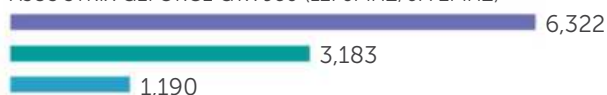
However, because of the high factory overlocks, the proportional gain in performance for the Gigabyte card was less than that for the ASUS and MSI cards. In 3DMark Fire Strike, the improvement was just under three percent.

■ Fire Strike

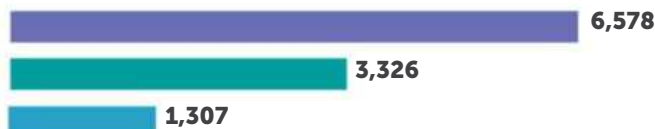
■ Fire Strike Extreme

■ Fire Strike Ultra

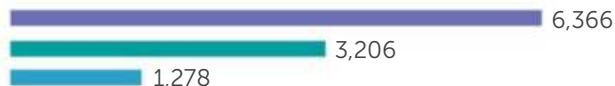
ASUS STRIX GEFORCE GTX 950 (1270MHZ/6772MHZ)



GIGABYTE GEFORCE GTX 950 XTREME GAMING (1283MHZ/7080MHZ)



MSI GEFORCE GTX 950 GAMING 2G (1257MHZ/6752MHZ)



Temperature

(Degrees Celsius, lower is better)

The Gigabyte GeForce GTX 950 Xtreme Gaming continued to impress in our temperature tests. After looping 3DMark Fire Strike Extreme for 15 minutes, we recorded a peak temperature of 62°C, which was the same as the MSI card despite the latter's considerably lower clock speeds. In this case at least, it looks like the larger Twin Frozr V cooler and Torx fans on the MSI card aren't helping it pull ahead. The ASUS card even ran hotter than the Gigabyte card, despite having less aggressive clocks.

■ GPU Core

ASUS STRIX GEFORCE GTX 950



GIGABYTE GEFORCE GTX 950 XTREME GAMING



MSI GEFORCE GTX 950 GAMING 2G



Power Consumption

(Watts, lower is better)

The Gigabyte GeForce GTX 950 Xtreme Gaming once again topped the charts here, but this time to its detriment. Its high clock speeds meant that it consumed the most power out of all three cards, an inevitable trade-off for having better performance. But thanks to its milder base and boost clocks, the MSI card consumed the least power here, with the ASUS card slotting right in the middle.

■ Idle @ Windows Desktop

■ Load @ Gaming in 3DMark 13 (Fire Strike Extreme)

ASUS STRIX GEFORCE GTX 950



GIGABYTE GEFORCE GTX 950 XTREME GAMING



MSI GEFORCE GTX 950 GAMING 2G





MODEL	ASUS STRIX GEFORCE GTX 950	GIGABYTE GEFORCE GTX 950 XTREME GAMING	MSI GEFORCE GTX 950 GAMING 2G
CORE CODE	GM206	GM206	GM206
GPU TRANSISTOR COUNT	2.94 billion	2.94 billion	2.94 billion
CORE CLOCK SPEED	OC mode: 1165MHz (Boost: 1355MHz) Gaming mode: 1140 MHz (Boost:1329 MHz)	1203MHz (Boost: 1405MHz)	OC mode: 1127MHz (Boost: 1317MHz) Gaming mode: 1102MHz (Boost: 1279MHz) Silent mode: 1026MHz (Boost: 1190MHz)
STREAM PROCESSING UNITS	768	768	768
TEXTURE MAPPING UNITS (TMU)	48	48	48
RASTER OPERATOR UNITS (ROP)	32	32	32
MEMORY	2GB GDDR5	2GB GDDR5	2GB GDDR5
MEMORY CLOCK SPEED (GDDR5)	6612MHz	7000MHz	6652MHz
MEMORY BUS WIDTH	128-bit	128-bit	128-bit
MEMORY BANDWIDTH	105.8GB/s	112.0GB/s	106.4GB/s
PCI EXPRESS INTERFACE	PCIe v3.0 x16	PCIe v3.0 x16	PCIe v3.0 x16
VIDEO PORTS	Dual-link DVI-I, Dual-link DVI-D, HDMI 2.0, DisplayPort	Dual-link DVI-I, HDMI 2.0, 3x DisplayPort	Dual-link DVI-I, HDMI 2.0, 3x DisplayPort
HDCP OUTPUT SUPPORT	Yes	Yes	Yes
PRICE	PhP 9,670	US\$ 179.99	US\$ 159

AND THE BEST GEFORCE GTX 950 GRAPHICS CARD IS...



GIGABYTE GEFORCE GTX 950 XTREME GAMING

The Gigabyte GeForce GTX 950 Xtreme Gaming is the clear winner here. When it comes to comparisons of cards based on the same reference design, performance differences are often only in the range of a few frames, which means that things like temperature, overclocking performance, and power consumption matter more. The Gigabyte leads three out of four of our assessment areas, thus handing it the winner's crown. What's impressive is a thermal performance that manages to rival the MSI GeForce GTX 950 Gaming 2G and beat the ASUS Strix GeForce GTX 950, both of which are actually clocked lower than the Gigabyte.

As the first card in Gigabyte's Xtreme Gaming series, the Gigabyte GeForce GTX 950 Xtreme Gaming makes quite a convincing entry onto the scene. Its aggressive factory overclocks, good cooling performance, and the inclusion of a metal back plate combine for a winning formula.

CHEAP AND CHEERFUL DETACHABLES

Equal parts tablet and notebook, 2-in-1 detachable notebooks bring together the best of both worlds. We pit the latest from Acer, ASUS, and HP to find the best on-the-go computing device you can get on a modest budget.

Text by *Kenny Yeo*
Photography by *Vernon Wong*
Art Direction by *Ian Chang*

VS
ACER SWITCH 10E
•
ASUS TRANSFORMER
BOOK T100 CHI
•
HP PAVILION X2

FRIDAY SEPTEMBER

THE STRA



ACER SWITCH 10E

As you might have guessed from its name, the Acer Switch 10E has a 10.1-inch touchscreen display. It outputs at a resolution of 1280 x 800 pixels, a tad low by today's pixel-obsessed standards. Nevertheless, images and text look sufficiently sharp; the biggest problem with the display is how glossy and reflective it is.

The Switch 10E has an all-plastic construction and is fairly thick, measuring at around 25.7mm with the keyboard dock attached. The tablet display alone is around 8mm. This means that it is easily the thickest of the trio here, and the heaviest, too. With the keyboard dock, the Switch 10E weighs around 1.28kg, while the tablet display on its own is 630g.

Underneath the proverbial hood, the Switch 10E is powered by a quad-core Bay Trail Intel Atom Z3735F (1.33GHz, 2MB L2 cache) processor, Intel HD Graphics, 2GB of RAM, and 64GB of eMMC flash storage.

The Atom Z3735F is an entry-level Bay Trail Atom processor, so don't expect fireworks. Its eMMC flash storage may be no match for a proper SATA

SSD, much less a PCIe-based one, but it is still miles quicker than a traditional hard disk drive. And while 64GB might not sound like much, the good thing is that Acer included a 500GB mechanical hard disk drive within the keyboard, hence the overall thickness of the device. The Switch 10E also has

a security feature called Acer SwitchLock, which automatically secures the hard disk in the dock whenever the tablet is removed to prevent unauthorized access.

The tablet display itself has a single micro-USB port, mini-HDMI port, 3.5mm audio jack, and microSD card reader for expanding storage, while the keyboard dock allows for a full-sized USB port. The Switch 10E also supports wireless 802.11n and speeds of up to 150Mbps, as well as Bluetooth 4.0.

In our usage, we found the Switch 10E to be bulky, heavy, and not as handy as its rivals. On the other hand, the large keyboard dock makes up with extra storage and keys that actually have room for travel and are quite tactile and pleasant to type on. Additionally, the trackpad is well sized for a 10.1-inch notebook.

+
**Affordable.
Long battery
life. Large
500GB HDD.**

—
**Thick and
bulky. Highly
reflective
display.**



TAP FOR
WEBSITE 

AT A GLANCE

Display

10.1-inch, 1280 x 800 resolution

Processor

Intel Atom Z3735F
(1.33GHz, 2MB L2 cache)

Memory

2GB RAM

Storage

64GB eMMC +
500GB HDD

Price

Php 19,990



The tablet display has a micro-USB port for connecting peripherals and a mini-HDMI port for video output.



A full-sized USB 2.0 port can be found on the keyboard dock of the Acer notebook



The Switch 10E is slightly tapered, but it is by far the thickest at 25.7mm.

ASUS TRANSFORMER BOOK T100 CHI

If the ASUS Transformer Book T100 Chi looks familiar to you, that's because it's a smaller version of the Transformer Book T300 Chi. Like the T300 Chi, the T100 Chi has an all-aluminum chassis and feels solidly put together. It even has the same chamfered diamond-cut polished edges, which give the entire design a more visual flair. It is remarkably thin and light, too, measuring just 14.8mm with the keyboard dock attached and just 7.2mm for the tablet display alone; that's even thinner than the first-generation iPad Air. It weighs just 1kg with the keyboard dock attached and 570g for the tablet display alone.

The T100 Chi also stands out for its high-resolution display. It has the same size 10.1-inch touchscreen display as its rivals, but it outputs a resolution of 1920 x 1200 pixels. This means a pixel density count of 224 pixels per inch, on par with Apple's MacBook Pro with Retina display. As a result, the T100 Chi looks sharper and crisper than its rivals. Viewing angles are good, too, but it suffers from a lot of glare and reflection.

The T100 Chi has the most powerful processor of the trio, with a quad-core Intel Atom Z3775 (1.46GHz, 2MB L2 cache) processor, 2GB of RAM, and 64GB of eMMC flash storage. This is one of the more powerful processors in the Bay Trail family and benefits from a slightly higher base clock speed.

This should translate to marginally better performance.

In terms of connectivity, the T100 Chi doesn't have a full-sized USB port. Instead, it only has a micro-USB port and another USB 3.0 port using a compact micro-B plug. There's also a 3.5mm audio jack, micro-HDMI port for video output, and microSD card reader for expanding storage. Like its rivals, it supports Bluetooth 4.0 and only wireless 802.11n for speeds of up to 150Mbps.

Thanks to the T100 Chi's svelte design and lightweight, it is no surprise that it is the most portable

and handy of the three devices. Its high-resolution display and aluminum chassis make the T100 Chi feel like a premium tablet. However, the keyboard dock is a little too small to be used comfortably.

+
Premium look and feel. Thin, compact, and light.

—
Relatively poor battery life. High-res display hampers performance.



TAP FOR
WEBSITE 

AT A GLANCE

Display

10.1-inch, 1920 x 1200 resolution

Processor

Intel Atom Z3775
(1.46GHz, 2MB L2 cache)

Memory

2GB RAM

Storage

64GB eMMC

Price

US\$ 399



The Transformer Book T100 Chi has a USB 3.0 port using the not-so-popular micro-B plug.



The ASUS' trackpad is responsive, but far too narrow to be used comfortably.



Chamfered diamond-cut polished edges add much visual flair to the Transformer Book T100 Chi.

HP PAVILION X2

Out of the three 2-in-1 detachable notebooks that we have gathered, the Pavilion x2 is arguably the funkiest. Available in two striking colors, Sunset Red and Blizzard White, it is clear that HP is not settling for boring black or silver. The entire device has an even matte finish giving it an upmarket look and feel, despite being fully plastic.

The Pavilion x2 sits in the middle of the Acer and ASUS in terms of size. It has a slim keyboard dock and measures just 16.7mm thick combined, but the tablet display itself is a little thick at 9.65mm. As for weight, the entire device is 1.13kg, whereas the tablet display is just 590g on its own.

The Pavilion x2 also has a 10.1-inch touchscreen display with a display resolution of 1280 x 800 pixels. It is similar to the Acer with images and text still looking passably sharp. That said, its colors are brighter and more vibrant than the other two machines, with good viewing angles.

Going deeper, the Pavilion x2 is also powered by a quad-core Intel Bay Trail processor, specifically the Atom Z3736F (1.33GHz, 2MB L2 cache). This

processor is similar to the one found in the Acer Switch 10E, with the only exception being that it can boost to higher clock speeds – 2.16GHz vs. 1.83GHz. The Pavilion x2 matches the other two with 2GB of RAM and 64GB of eMMC flash storage.

We initially wondered why the Pavilion x2's tablet display is so thick; it's because it packs a full-sized USB port on the display rather than on the keyboard like the Acer. In addition, the Pavilion x2 also eschews the more common micro-USB port in favor of the thoroughly modern USB Type-C. It's a clever and thoughtful design; because the Pavilion x2 is wedge-shaped, its thickness is felt only at one end. Overall, it's still relatively compact.

In terms of usage, the Pavilion x2 is certainly portable and handy.

The tablet display's wedge shape

and light weight also mean that it's easy to hold and feels just like an ordinary 10-inch tablet. The biggest issue with it, however, is its trackpad. Not only is it too narrow to be used comfortably, it is also woefully erratic and unreliable. Many times, we gave up and just used the touchscreen instead.

+
Attractive design, full-sized USB port, and USB Type-C port.

–
Erratic trackpad. Highly reflective display.

AT A GLANCE

Display

10.1-inch, 1280 x 800 resolution

Processor

Intel Atom Z3736F (1.33GHz, 2MB L2 cache)

Memory

2GB RAM

Storage

64GB eMMC

Price

From US\$ 299.99



The Pavilion x2 has a USB Type-C connector, making it more future-proof.



The Pavilion x2's B&O-branded speakers are loud, but lack audio fidelity.



The Pavilion x2's trackpad is erratic and unreliable – best to use the touchscreen.



TAP FOR
WEBSITE

PCMark 8

(higher is better)

Thanks to its slightly faster processor, the ASUS Transformer Book T100 Chi managed the highest scores.

PCMark 8 - Home

ACER SWITCH 10E

1,140

ASUS TRANSFORMER BOOK T100 CHI

1,209

HP PAVILION X2

1,122

3DMark 2013

(higher is better)

Again, the ASUS Transformer Book T100 Chi recorded the highest score because of its more powerful processor.

Cloud Gate

ACER SWITCH 10E

1,125

ASUS TRANSFORMER BOOK T100 CHI

1,388

HP PAVILION X2

1,135

Battery Life

(in minutes – higher is better)

The Acer Switch 10E has the longest battery life by a wide margin. The ASUS Transformer Book T100 Chi did not do so well because of its high-resolution display and more powerful processor.

ACER SWITCH 10E

462

ASUS TRANSFORMER BOOK T100 CHI

231

HP PAVILION X2

395

MODEL	ACER SWITCH 10E	ASUS TRANSFORMER BOOK T100 CHI	HP PAVILION X2
DISPLAY	10.1-inch, 1280 x 800 resolution	10.1-inch, 1920 x 1200 resolution	10.1-inch, 1280 x 800 resolution
PROCESSOR	Intel Atom Z3735F (1.33GHz, 2MB L2 cache)	Intel Atom Z3775 (1.46GHz, 2MB L2 cache)	Intel Atom Z3736F (1.33GHz, 2MB L2 cache)
MEMORY	2GB	2GB	2GB
STORAGE	64GB eMMC, 500GB HDD	64GB eMMC	64GB eMMC
PORTS	USB 2.0, micro-USB, mini-HDMI, microSD card reader, 3.5mm audio jack	USB 3.0 micro-B plug, micro-USB, microSD card reader, 3.5mm audio jack	USB 2.0, USB Type-C, micro-HDMI, microSD card reader, 1x 3.5mm audio jack
CONNECTIVITY	802.11 n/b/g/a, Bluetooth 4.0	802.11 n/b/g/a, Bluetooth 4.0	802.11 n/b/g/a, Bluetooth 4.0
DIMENSIONS	262 x 180 x 22.9mm	265 x 174.5 x 14.8mm	264 x 173 x 19mm
WEIGHT	630g (tablet) 1.28kg (with keyboard dock)	570g (tablet) 1.06kg (with keyboard dock)	590g (tablet) 1.12kg (with keyboard dock)
PRICE	Php 19,990	From US\$ 399	From US\$ 299.99

AND THE BEST BEST 2-IN-1 DETACHABLE NOTEBOOK IS...



HP PAVILION X2

It was hard to pick a winner, considering that all three devices performed quite comparably in benchmarks, but the HP Pavilion x2 tipped our scales for the simple reason that it is more well rounded and makes the most of what it has. HP did a good job of masking the fact that the x2 doesn't have an aluminum chassis by painting it in fun colors. It is also the only device that manages to cram not just a full-sized USB port, but also a forward-looking USB Type-C port into the tablet display without compromising too much on portability and thickness. Our only gripe is its erratic trackpad, but given that all three devices have somewhat narrow and small trackpads (they are convertible notebooks, after all), you're better off using the touchscreen anyway.

The kings of candy bar phones in the early 2000s were the iconic Nokia 8xxx series. The 8250 featured here is a more business-like variant of the standard 8210 and trendier 8310.





Earning an HWM award or a prestigious badge from our monthly shootouts doesn't come easy. It takes a product that performs above the competition, holds unmatched value, and stands the test of technological time to garner such prestige. And yet, not all awarded gadgets are viewed equally. Here in our year-ending anniversary issue, we bestow added honor to the products we feel deserve extra recognition.

Text by **The HWM Team**

Art Direction by **Victor Felix Pulgar**



Built to Last

Fujifilm X-T1

"The X-T1 consistently got us good results in all the lighting conditions we put it through. Images have good color, plenty of detail, and hold up well up to the higher ISO settings, which is essentially all you want from a good midrange camera." – *HWM* April 2015

First 4GB of RAM on a Smartphone!

ASUS ZenFone 2

"With several variants to choose from in the local market, the ZenFone 2 has something for everybody. Overall performance is fantastic, especially for its asking price." – *HWM* July 2015



Rotating Marvel

Acer Aspire R13

"If you're opting for a convertible, you're looking to satisfy a dual purpose. That means a machine that'll perform like a proper notebook when you need it to, not just a tablet with a keyboard. The Acer Aspire R13, again, fits the bill." – *HWM* May 2015

Geek Gentrification

Casio Oceanus OCW-G1000

"A premium timepiece that commands a premium price, the Casio Oceanus OCW-G1000 brings tech sophistication into the old-school analog wristwatch." — *HWM* July 2015



Audio-centric Excellence

Sony XBA-A1AP

"It's comfortable enough to keep in your ears for long periods of time, so this is a pair of in-ear headphones we quite wholeheartedly recommend." — *HWM* August 2015



Top of Its Class

LG 55UF950T

"The LG 55UF950T Super UHD television delivers a good combination of features and performance. Its capabilities and picture quality provide great value for its hefty price tag." — *HWM* September 2015



Gentle and Subtle

Philips Curved UltraWide LCD Display

"If you want to replace your dual-monitor setup or have a more immersive curved ultrawide screen experience, the Philips Curved UltraWide LCD Display is an excellent choice."

— HWM September 2015



Beastly Performance

MSI GeForce GTX 980 Ti Gaming 6G

"The MSI's stellar Twin Frozr V cooler helped it achieve the lowest temperatures, an impressive feat considering its top-notch performance. MSI demonstrates that overly elaborate designs do not always equate to better cooling." — HWM September 2015



Not Just a Cameraphone

Lenovo Vibe Shot

"The Lenovo Vibe Shot is constantly being pushed as a true camera replacement, but what people seem to ignore is how great of a multimedia worker it is on top of that." — HWM October 2015



An Urban Trendsetter

Ford EcoSport

"The Ford EcoSport offers more space and greater flexibility than a regular hatchback, and allows easier driving compared to a full-blown crossover. With more compact crossovers becoming available locally, it's good that the EcoSport arrived a step ahead." – *HWM November 2015*



The Best Phablets Money Can Buy

Samsung Galaxy Note 5 and S6 Edge+

"Sure, there are new phablets these days that are ticking more spec checkboxes than recent Samsung devices and cost quite a bit less; but in general, we still find Samsung flagships better built and have fewer edge cases to deal with." – *HWM November 2015*



Unchain Your Gaming Side

Gigabyte Z170X Gaming 7

"The Gigabyte Z170X-Gaming 7 has plenty of gaming and overclocking accoutrements available to the user, while still retaining an affordable price as compared to the competition." – *HWM November 2015*

A True Motherboard Hero
ASUS ROG Maximus VIII Hero

"The ASUS ROG Maximus VIII Hero features impressive UEFI controls and a splendid audio solution. If you are looking for a high-end motherboard, it will not disappoint."

— HWM November 2015



A (3D) Touch Above
Apple iPhone 6s and 6s Plus

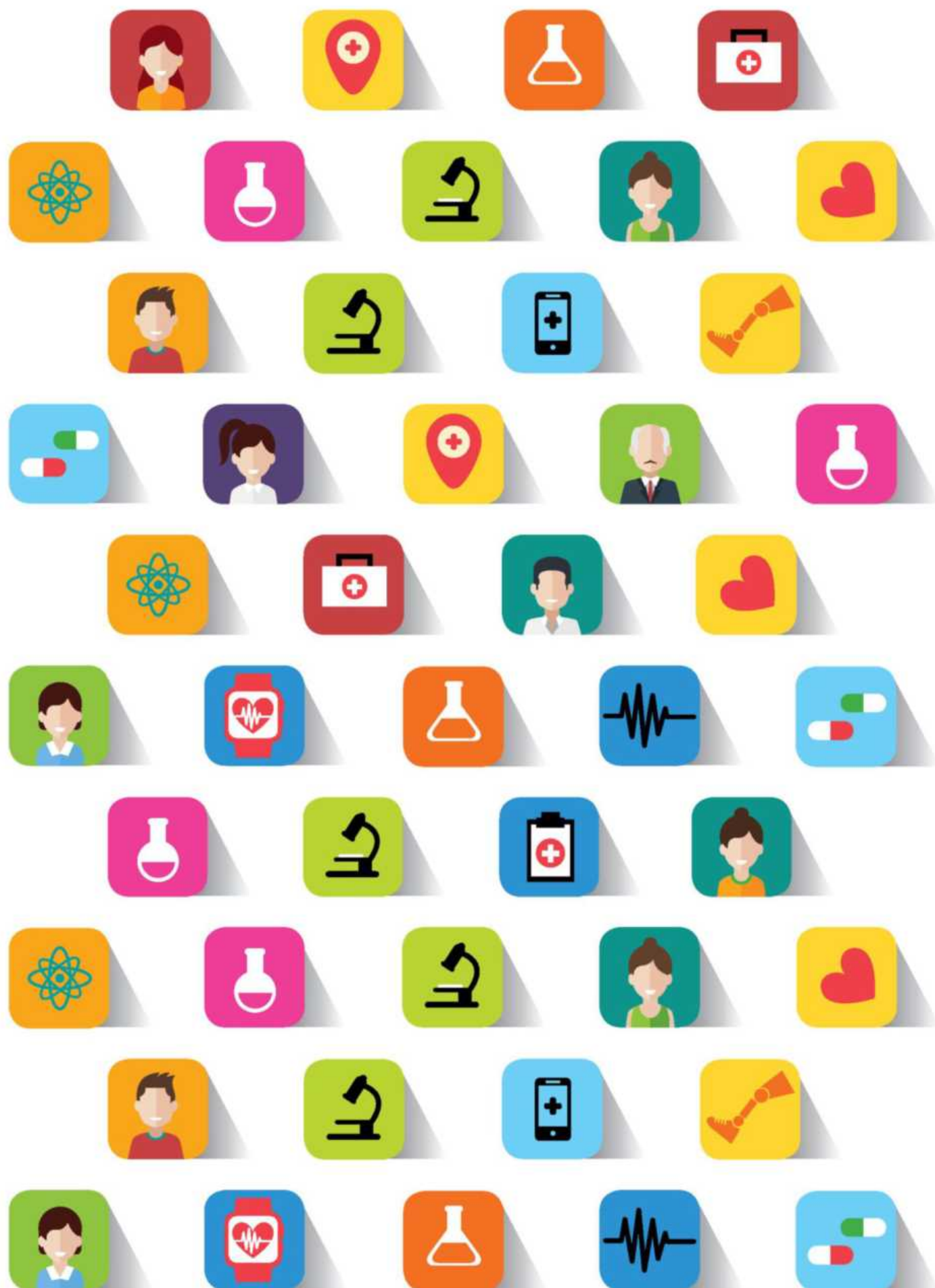
While the iPhone 6s and 6s Plus look exactly the same as last year's models, don't be mistaken; these are not the same phones. 3D Touch introduces a completely new way to interact with your phone." — HWM December 2015



Our Kind of Slate
Samsung Tab S2 8.0

"There's so much to like about the Samsung Galaxy Tab S2 – enough to make us forget about the relatively high price tag for the dated specs. It's now Android's tablet to emulate." — HWM December 2015







FEATURE

How technology is helping you live longer, better, and happier

Worldwide life expectancy has never been better, and it's all thanks to better diets, the rise of CrossFit, and the strange phenomenon known as yogalates, right? Think again! That smartwatch on your wrist? One day, it could save your life.

Text by **Team HWM** Art Direction by **Ken Koh**



Wearables: Revolutionizing Medical Research

The activity tracker you have on your wrist can do more than just count the number of steps you have taken and the hours you have slept. It has the power to change the way medical research is conducted.



MEDICAL RESEARCH IS A PARAMOUNT COMPONENT of medical studies and is crucial to our understanding of how people react to symptoms, how diseases work, and how effective a particular drug is in the real world.

One of the biggest challenges facing medical researchers is the lack of subjects. Kathryn Schmitz, PhD, University of Pennsylvania, said that in sending out 60,000 letters in a bid to get new subjects for a study, they received only 305 responses. The truth is that methods for conducting medical research haven't really changed in decades. Researchers would try to recruit subjects by putting up flyers, or attract them by offering small rewards for participation. In some cases, universities might even make it compulsory for undergraduates to participate. Needless to say, these methods do not provide an accurate cross-section of the population, thereby limiting our understanding of diseases.

Apple wants to change this. There are already hundreds of millions of iPhones out there and millions of users wearing Apple Watches and other activity trackers. So how can they harness this? The answer is ResearchKit, an open-source software framework that will allow researchers and developers to create apps for medical research.

In a nutshell, ResearchKit will allow researchers and doctors to gather more data by using apps and taking advantage of the millions of iPhones and Apple Watches that are already out there.

For example, one common way to assess Parkinson's disease is the Parkinson's Gait Test, where a doctor rates a patient on his walk on a scale of 0 to 4. It's highly subjective and also troublesome to conduct, as it requires patients or subjects to come in and walk in front of a doctor. But by using the accelerometer in the iPhone and Apple Watch, ResearchKit lets researchers and developers create apps that can accurately measure the gait of a patient or subject. It also lets

the subject do the test wherever they are and whenever they want. Beyond Parkinson's disease, ResearchKit will also allow for other apps to be created that can be used to measure and test for other conditions and diseases, allowing research subjects and patients to self-diagnose and take part in research without traveling to a clinic and without the presence and guidance of a doctor.

Since ResearchKit pulls data out of the Health app, it's not limited to just the Apple Watch; it will work with any wearable that uses an app

that syncs with Apple Health, and that's a list that includes popular wearables like Jawbone's Up activity trackers, Withings Activité smartwatches, and Polar's running watches and activity trackers. This allows researchers to gather a larger, more diverse and meaningful amount of data.

Beyond Apple and ResearchKit, Google also wants to use wearables to advance medical research and studies. In June earlier this year, Google's Google X research division announced a wristband that was designed specifically for medical research. It will be more accurate than consumer-grade activity trackers, and it can measure heart rate, heart rhythm, skin temperature, and even ambient light exposure and noise levels by the minute.

**"RESEARCHKIT
LETS RESEARCHERS
AND DEVELOPERS
CREATE APPS THAT
CAN ACCURATELY
MEASURE THE
GAIT OF A PATIENT
OR SUBJECT, AND
LETS THE SUBJECT
DO THE TEST
WHEREVER AND
WHENEVER THEY
WANT."**

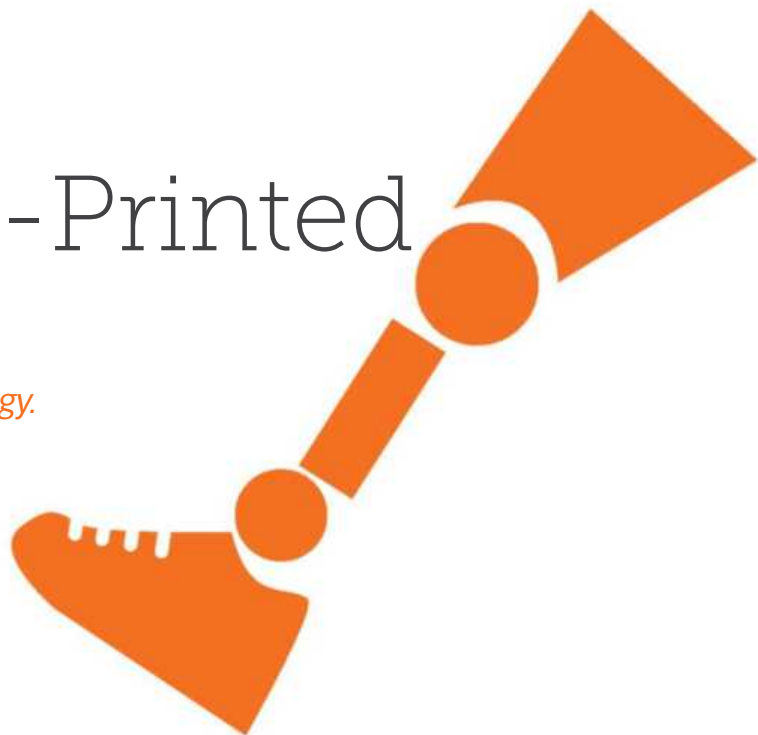
Andy Conrad, head of the life sciences team at Google, said that the intended use of this wristband is for doctors to prescribe them to patients or for use in clinical trials. Conrad also hopes that in the future, devices like Google's wristband will be given to everyone, so that doctors can be alerted to problems and people can catch signs of diseases early. "I envision a day, in 20 or 30 years, where physicians give it to all patients. Prevention means all the time," he said.

Like Apple with ResearchKit, Google is hoping that its new wristband will let doctors track their patients more accurately and reliably, especially when they are away from hospital.



Beautiful 3D-Printed Prosthetics

We can rebuild him. We have the technology.



LOSING A LIMB IS A TRAUMATIC and life-changing experience and, for many, the cost of a traditional prosthetic replacement is just too expensive to be a feasible option. But today, advancements in 3D printing may offer an alternative solution at a fraction of the cost.

Many amputees have already benefited from open-source schematics for 3D-printed prosthetics that are readily available online. e-Nable, a global network of volunteers, helps supply amputees with these 3D-printed limbs, which often cost very little to make.

But while these low-cost 3D-printed limbs are affordable, they also have their own drawbacks. Due to the generic nature of the schematic, the socket fitting is often mediocre and uncomfortable, and the plastic used in the 3D printing process isn't as durable or capable of supporting as much weight as the high-quality polymers and metals used in traditional prosthetics. In addition, they often look and feel unaesthetic, which can exacerbate the sense of loss and negatively affect the psychological well-being of some amputees.

One New York-based designer is trying to change all of that. By using a combination of 3D scanning, 3D printing, and 3D modeling software, William Root's Exo-Prosthetic leg is not only affordable to make, it's also fully customizable, super strong, super light, and it looks amazing.

The process begins with a scan of the patient's residual limb and remaining intact limb, if present, to create a highly precise 3D virtual model, allowing the anatomy to match up to within fractions of a millimeter. This process is done with technology developed by MIT's Biomechatronics lab called FitSocket, which uses an array

of pressure sensors to gauge the softness or stiffness of a patient's remaining tissue, allowing a better fit and increased comfort between the residual limb and socket.

Using the same data, Root then extrapolates a 3D model of the patient's full limb, which is turned into a triangulated mesh. Root has designed a hollowed-out exoskeleton model that he says offers

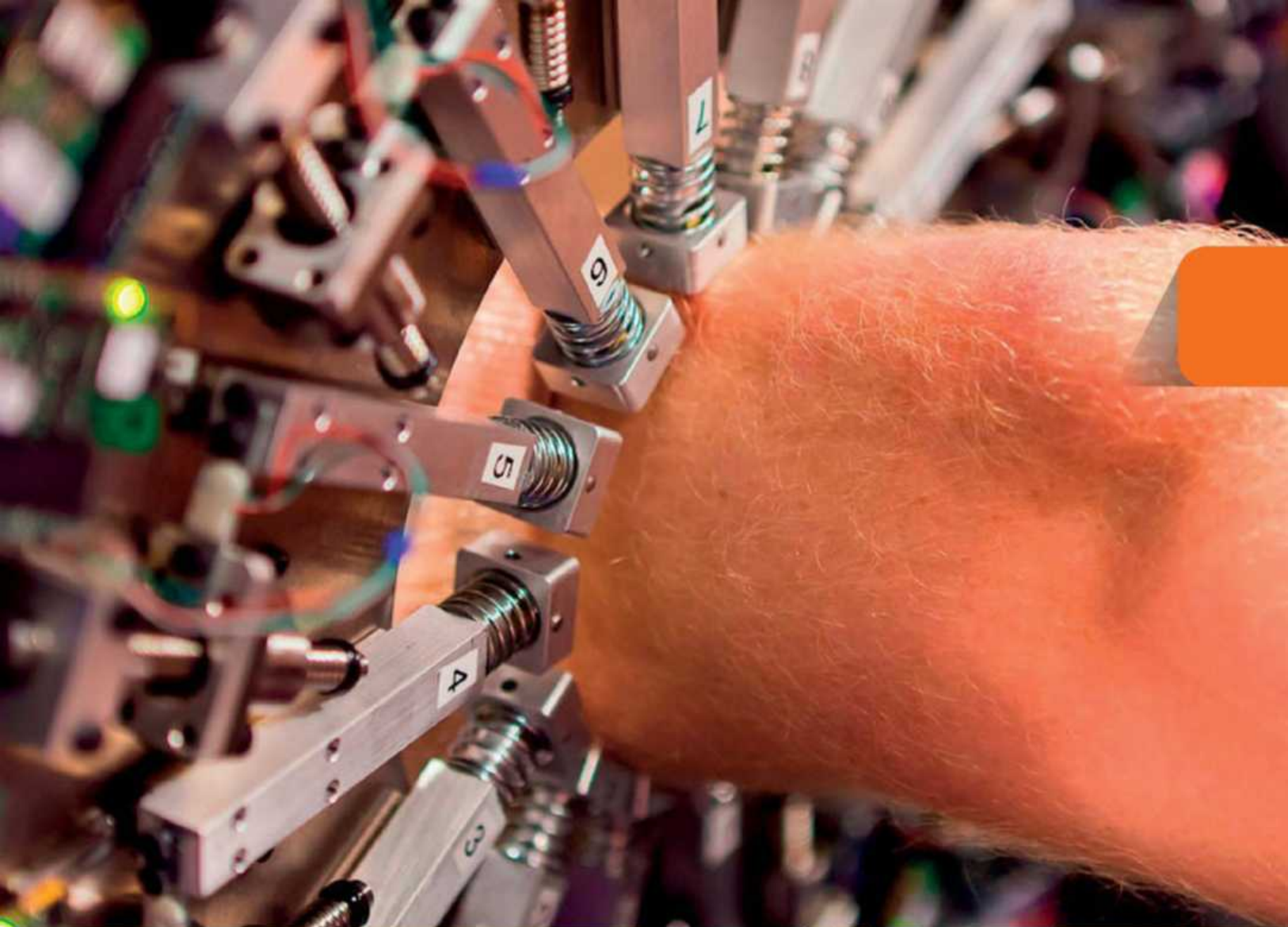
"maximum strength for the least amount of material and weight." A stress analysis tool helps determine weak points on the model, and software increases the mesh density of the structure to compensate. The surface pattern of the exoskeleton can be customized with patterns and colors to suit the client, or it can later be used as a scaffolding for a life-like silicone sleeve.

The finished model is sent to an industrial 3D printer and printed out of sintered titanium powder, an extremely durable, lightweight, and biocompatible metal. The process fuses titanium dust particles together using laser sintering.

Printed as a single 3D exoskeleton, it's immediately ready for assembly. Using custom connectors 3D printed directly onto the prosthesis, off-the-shelf prosthetic components are inserted into the Exo leg, and it is securely assembled using a standard pyramid connector.

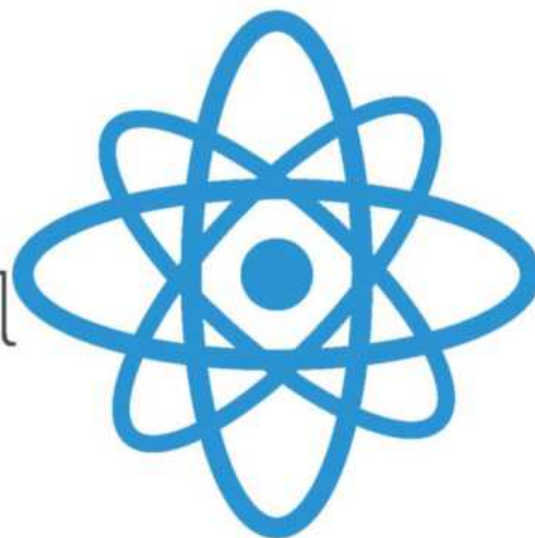
The result is a prosthetic limb that looks like it came straight out of a Sci-Fi movie or video game. According to Root, the total cost from scan to finished product is about US\$ 1,800. Now Root is considering how best to apply his process to existing systems, and whether it would be most effective being taken up by a startup, a 3D-printing company, or a big player in the existing prosthesis marketplace who can promote the product well.

"BY USING A COMBINATION OF 3D SCANNING, 3D PRINTING, AND 3D MODELING SOFTWARE, WILLIAM ROOT'S EXO-PROSTHETIC LEG IS NOT ONLY AFFORDABLE TO MAKE, IT'S ALSO FULLY CUSTOMIZABLE, SUPER STRONG, SUPER LIGHT, AND IT LOOKS AMAZING."



Technology at a Genetic Level

In the alleys and hallways of hospitals today, technology is slowly transforming healthcare – not just in the types of treatments we can receive, but also in terms of the means by which we receive it.



TODAY'S TECHNOLOGY ALSO ALLOWS doctors to go deeper with just a touch of a button, with devices like the newly developed Juno SNP genotyping system coming to the scene. Smaller, faster, and more precise than ever, these new devices are also easier to use, as they can run multiple tests from a single sample.

How the Juno system works is that the system employs microfluidics, which is the science of designing, manufacturing, and formulating devices and process that deal with tiny volumes of liquid on the order of nanoliters. Users pipette DNA samples down one side of an integrated fluidic circuit (IFC) which is a small rectangle with dozens of inlets on either side. The various assays for testing are pipetted into the inlets on the other side, and the Juno automatically pushes samples and assays into separate chambers, creating literally thousands of reactions with just one step.

This saves medical staff from having to come back multiple times to move things along, and reduces the chances of contamination or degradation during collection. Given that DNA samples degrade easily with time and considering the fact that multiple samples may not necessarily be easily obtainable, the ability of today's machines to produce more with less is certainly invaluable.

The Juno machine, for example, is able to get 9,216 data points from as little as 5.5ng of total input DNA in one automated process, all within three hours! It's even designed with an intuitive touchscreen interface, so medical staff need less training to use it, so there's a chance these devices will eventually make their way into our homes, too. If the results can automatically be sent over to some remote server that our doctors can then tap in to, it might mean a whole new

level of convenience for a host of patients. On the treatment front, traditional devices like the MRI (Magnetic Resonance Imaging) scanner are also getting a rethink, so that they become more comfortable for patients both mentally and physically. Most patients feel a great sense of claustrophobia in a traditional MRI device, as a typical scan has you placed on a platform that is mechanically delivered into a tunnel device that does the scanning.

You're required to be lying down, and the part to be scanned may even be strapped in place to prevent excessive movement, thus further

enhancing the sense of claustrophobia.

There's nothing you can do during the scan except perhaps to listen to some music on one of the more advanced machines, but the experience can be quite intolerable for people with claustrophobia.

That's where the Upright MRI scanner comes in, as the open design of the machine means you can see around yourself while the scan is being carried out. Depending on which part of your body is being scanned, you can sit, lie slightly backwards, lie horizontally, or even stand, but at all times you are able to look at a video or DVD on a screen.

The advantage for healthcare professionals is that not only are they able to get patients to

relax for the scan, they are also able to get images of all parts of the body (especially the joints and spine) in their current weight-bearing state, giving them deeper insight into the state of your body. More accurate results and a less stressful experience certainly look like a win-win situation for both parties, and is just an example of how developments in technology allow for a radical rethink of how certain medical examination techniques can be applied.

"THE JUNO MACHINE, FOR EXAMPLE, IS ABLE TO GET 9,216 DATA POINTS FROM AS LITTLE AS 5.5NG OF TOTAL INPUT DNA IN ONE AUTOMATED PROCESS, ALL WITHIN THREE HOURS!"



The Future of Your Health Is on the Internet

Bet you didn't know that you could prevent chronic diseases like heart failure, obesity, and stroke using the Internet. With you + tech + healthcare, you can.



YOU KNOW THE SAYING: "Prevention is better than cure." That's why we're encouraged to eat more vegetables than meats, exercise more than sit, and sleep more than play video games.

But do these things really help? How would we know for sure that we're actually becoming healthier with the lifestyle changes we're making, and not staying the same, or even getting worse?

Juliett Starrett is a CrossFit athlete and the co-founder of San Francisco CrossFit. After giving birth and receiving a blood transfusion, Starrett kept feeling fatigued and getting chronic headaches.

The doctors put her on antibiotics, and thought it was just temporary. But even though Starrett was both extremely health-conscious and fit, she didn't get better. To help her get through the day, Starrett resorted to drinking eight cups of coffee a day.

Starrett started working with WellnessFX. WellnessFX is a web-based service that combines traditional blood tests with intuitive online data tracking and phone consultations with physicians. Using WellnessFX, Starrett discovered that her iron, vitamin B12, and vitamin D levels – indicators of physical energy – were extremely low.

Thanks to WellnessFX's ability to track biomarkers over time, Starrett changed her lifestyle, diet, and supplements to attack her deficiencies. Over the next few months, her energy levels improved significantly, and she could cut her coffee down to a cup a day.

Not only did she feel better, Starrett could actually measure her improvements, using WellnessFX's regular blood tests and online data tracking, to quantify how her biomarkers changed over time.

Tracking your biomarkers over time isn't just something for elite athletes. According to the Center for Disease Control and Prevention (CDC) in the United States, chronic diseases and conditions, such as

heart disease, obesity, and arthritis, are among the most common, and preventable of all health problems. By monitoring your blood over time, you can track and stop markers like cholesterol, inflammation, and blood sugar before they hit unhealthy levels.

Internet-connected health services aren't just good for preventive care. In 2014, the University of California, San Francisco began offering patients the use of a miniature wireless device called the CardioMEMS HF System implant.

The CardioMEMS is a battery-free device that's smaller than a coin. It monitors the patient's heart rate and artery pressure, and transmits

them in real time to the hospital. Not only does it help doctors measure how patients are responding to different treatment therapies, it can also tell doctors that a patient's heart condition is getting worse, even before the patient feels any symptoms.

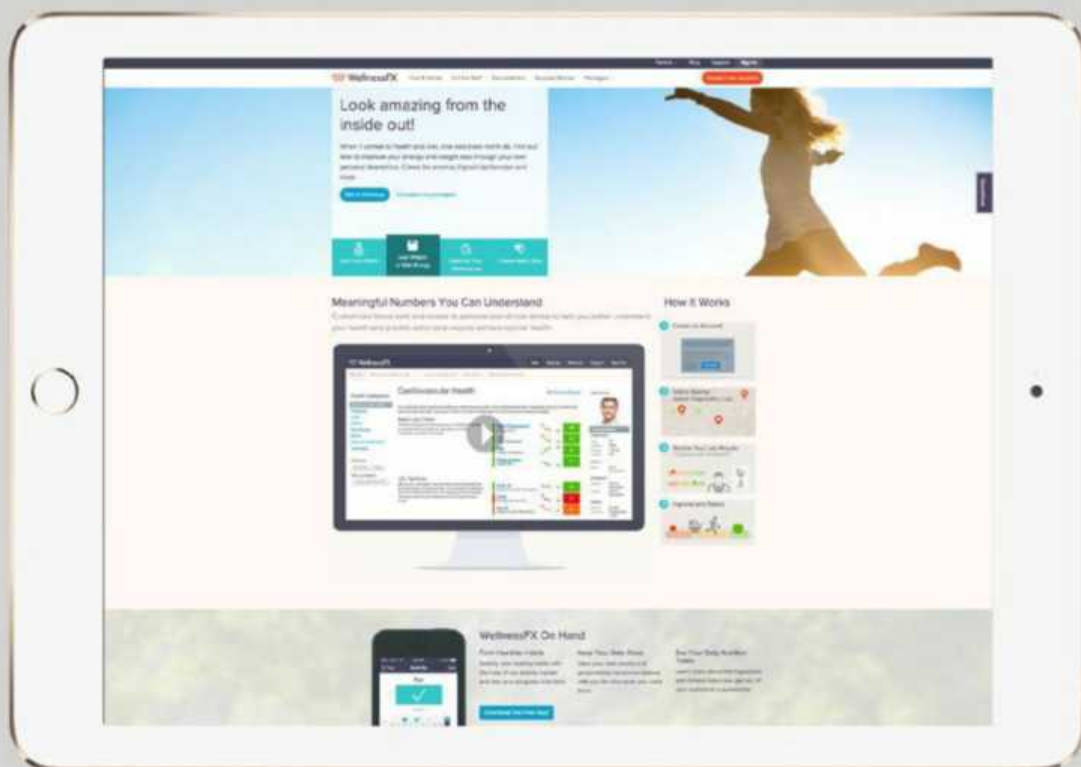
While having your personal health data online can be convenient, and in some cases, life-saving, the one major concern is how secure and private your data can remain once it's shared. The University of California, Los Angeles (UCLA) Health recently experienced a cyber-attack, which may have compromised as many as 4.5 million patient records.

But online healthcare might be a case where the potential rewards will far outweigh the risks; the stakes are as high as they can ever be when lives are at stake.

Today, there's a lot of talk about bringing our everyday appliances online, a concept that's commonly called the Internet of Things; Internet-connected refrigerators and washing machines are real products you can go out and buy right now.

The logical extension of that is surely when our bodies join the Internet of Things. With services like WellnessFX, devices like the CardioMEMS, and consumer wearables becoming more adept at tracking our everyday activity, we're already getting there. **HMM**

"USING WELLNESSFX, STARRETT DISCOVERED THAT HER IRON, VITAMIN B12, AND VITAMIN D LEVELS – INDICATORS OF PHYSICAL ENERGY – WERE EXTREMELY LOW."



PICTURES WELLNESSFX + CARDIOMEMS



PICTURES: APPLE

THE ULTIMATE GUIDE TO YOUR NEW IPHONE 6S AND 6S PLUS

Whether you're a savvy veteran or a complete beginner to iOS, we've got you covered in our ultimate guide to your new iPhone 6s or 6s Plus. Learn the ins and outs of 3D Touch, Live Photos, and tons of other tips and tricks for getting the most out of your new iPhone.

Text by **James Lu**

Art Direction by **Ken Koh**

WHAT MAKES 3D TOUCH SO GOOD IS HOW SEAMLESSLY IT'S INTEGRATED INTO EVERY PART OF IOS 9.

3D Touch

3D Touch is, without a doubt, the signature feature of the Apple iPhone 6s and iPhone 6s Plus. 3D Touch introduces a quicker and easier way to interact with your phone that just makes

everything more efficient and convenient.

An earlier version of the technology with a slightly different implementation known as Force Touch can be found on the MacBook Pro's trackpad and on the Apple Watch. According to

Apple's Senior Vice President of Marketing, Phil Schiller, 3D Touch took Apple "multi, multi, multi years" to develop. Working with Corning, Apple developed a pliable iPhone cover glass. Swipe it, and the phone works the way it always has. But

press it, and 96 sensors embedded in the backlight of the retina display measure microscopic changes in the distance between themselves and the glass. Those measurements then get combined with signals from the touch sensor to make the motion of your finger sync with the image on the screen. When you press the screen, an integrated haptic feedback engine delivers a 10- or 15-millisecond vibration, which Schiller says is the iPhone's way of telling your fingers "good job" when an action is complete.

What makes 3D Touch so good is how seamlessly it's integrated into every part of iOS 9; whatever you're doing, 3D Touch can make it quicker and easier. On the homescreen, 3D Touch serves as a shortcut launcher. Press harder on an icon on the homescreen and a few shortcuts, called Quick Actions, related to that



Students enjoy the conveniences of PayMaya

VOYAGER

April Siborboro was on her way to school in Far Eastern University when she visited the PayMaya booth in the LRT Edsa Station and got her PayMaya Visa card with beep. After signing up and getting a PHP30 bonus for her beep wallet, the 19-year-old Tourism student was able to tap her card by the beep reader at the turnstile and ride the LRT to catch her first class. Nowadays, April gets to avoid the hassle of lining up to buy her ticket for her LRT fare and she is also discovering how to use PayMaya for online shopping.

Fifteen year-old Elgin Que on the other hand, is a die-hard gamer. He has been playing online games as early as he can hold the game controller. Before, he had to ask his older sister to buy him gaming software online, but now that he has a PayMaya virtual Visa, Elgin can purchase online games by himself with the allowance from his parents, making him also more aware of his purchases.

"I mostly spend on skins for CS:GO and some new games as well. A lot of times there are weekend sales which I'd take advantage of, too," he says. "It's easy for me to just buy things from Steam! I don't need anyone else to help me buy things online. At the same time, having my own PayMaya Visa makes me feel really responsible as I can keep track of my transactions."

Fourteen year-old student Nikko Angelo Quilo meanwhile discovered PayMaya via Facebook. He says he uses his PayMaya virtual Visa for online shopping on sites like Zalora while he uses his physical PayMaya Visa Card with beep for transportation. "I feel safe because I only spend the amount that I load up to my PayMaya card," said Nikko.

April, Nikko and Elgin have one thing in common - they are young students enjoying the conveniences of PayMaya, the newest digital payments innovation from Smart eMoney, Inc., the leader in digital financial services.

PayMaya is the first of its kind, all-in-one digital payments available in the country. You can enjoy PayMaya even if you don't have a bank account. Since it is mobile app-based, you can use PayMaya whether you are using Smart, Sun, Talk 'N Text or even other telco providers. With PayMaya, people can shop online, book flights or get travel accommodations. They can also reserve and buy movie seats, book tickets to the hottest events and music festivals and get first dibs at online promos via PayMaya.

"We want young people to experience all the benefits of shopping online whether these are for gadgets, clothes, travel, games or music. Now, they can participate in the digital life with PayMaya," says Paolo Azzola, co-COO of PayMaya and Managing Director at Rocket Internet.

By downloading PayMaya on your smartphone via App Store or Google Play, you get instant access to the PayMaya virtual Visa. This can be conveniently loaded at loading stations such as Robinsons Business Centers, SM Malls Business Centers, 7-Eleven convenience stores and Smart Padala centers, and used to shop online. You are also entitled to 5% discount on call and text loads from Smart if you top up using PayMaya.

If you also want to have a physical PayMaya Visa Card that you can use to swipe in malls, restaurants and other merchants accepting Visa, you can upgrade your PayMaya virtual Visa via the mobile app. After filling out the required information and receiving an instant text notification confirming the upgrade, all you have to do is go to a PayMaya activation center (such as a Smart Jump store) and receive the physical PayMaya Visa card.

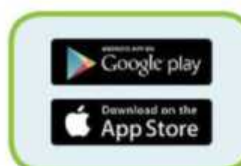
If you are a regular train commuter, you can get a physical PayMaya Visa Card with beep in LRT and MRT stations. The physical card with beep gives you access to the same advantages of online and face-to-face payments, but can also be used to seamlessly pay for LRT and MRT fares.

PayMaya currently has partnerships with online lifestyle and travel sites like Zalora, Takatack, Philippine Airlines, AirBNB and Food Panda as well as brick and mortar stores like SM and Robinson's Malls.

PayMaya users are already thinking of how they can better access the digital life through PayMaya. Nikko Angelo is planning to take a vacation in Boracay, Surigao City, Singapore and Hong Kong. He wants to book his flights and accommodations with his PayMaya card. Elgin on the other hand, is eyeing the next in-game item to purchase. In the meantime, he is recommending his friends to also get their own PayMaya accounts.

"It's really so convenient, easy to use and universal," Elgin added.

How do I start using my PayMaya VIRTUAL Visa?



1. Download the app from Google Play store or the App Store and sign up.



2. Tap "Link" on the app to activate your virtual Visa card.



3. Your card number, CVV & Expiry Date will be displayed.

**Make sure to load up before shopping online!*

How do I use PayMaya to shop online?



1. Load up your PayMaya account at our Load-Up partners*



2. Select Debit/Credit as your payment option.



3. At the checkout page, enter these details to complete the payment:



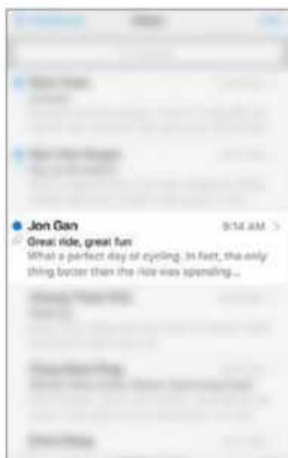
*LOAD-UP PARTNERS



app will pop up in a little menu, like taking a selfie with the camera, or calling one of your favorite contacts. Right now, it's mostly Apple apps that work, but some third-party apps have been updated, as well (look to the right for a list of our favorites). If an app doesn't support 3D Touch, you'll get a longer vibration through the haptic feedback engine to tell you that nothing is going to happen.



Where 3D Touch really comes into its own is when it's used within an app. Here, Apple has given you two main features to play with: Peek and Pop. The basic idea is this: You can hard-press on an SMS message, an email in your inbox, an image you found in Safari, a website URL your friend sent you, or pretty much anything the iPhone recognizes as a link of some kind, and a preview window (a "peek") of the thing you pressed will appear on the display. From there, you can read the entire message, then simply lift your finger off to quickly dismiss it. This makes it super easy and fast to scan through messages or emails without having to open each one individually. If you don't want to close the window, you can press a bit harder to Pop it, which launches the preview window into the relevant app for that content. There are other options in the Peek view, too. Slide your finger up and options will appear.



For example, in Safari, you'll be able to open the link, add it to your reading list for later, or copy the URL. If you're viewing an image, you can save that image or open it up in Safari. In email, you can slide up for a bunch of options, or slide left to mark it read, or right to archive it.

Oh, and when you're typing an email, message, note, or anything else that uses a keyboard, hard-press the on-screen keyboard, and it will turn into a trackpad that you can use to quickly and accurately place the cursor where you want it. Let go of the screen, and it turns back into a keyboard.

By the way, you can change the sensitivity for 3D Touch (or even turn it off completely if you want). Go to the Settings menu > General > Accessibility, then scroll down until you find 3D Touch. Tap it, then make your selection. By default, 3D Touch sensitivity is set to Medium.

Third-party apps optimized for 3D Touch

A number of third-party apps have already been updated to support 3D Touch. Here are some of our favorites:

Instagram

Hard-pressing the Instagram app on the home screen will bring up a shortcut menu with options for posting a new photo, viewing activity, search, and sending a photo message directly. When you are browsing through photos on an Instagram account, you can Peek to get a preview of the photo. Want to see the full-sized photo? Simply Pop press it.

WeChat

Hard-press the WeChat app on the home screen to start a new chat, record a short video, or access your QR code. You also can get a Peek of individual messages in your inbox.

Dropbox

Hard-press the app to access shortcuts to the most recent file added to Dropbox, view offline files, upload a photo, or search files in your account. You also can Peek at individual files inside the Dropbox app.

Evernote

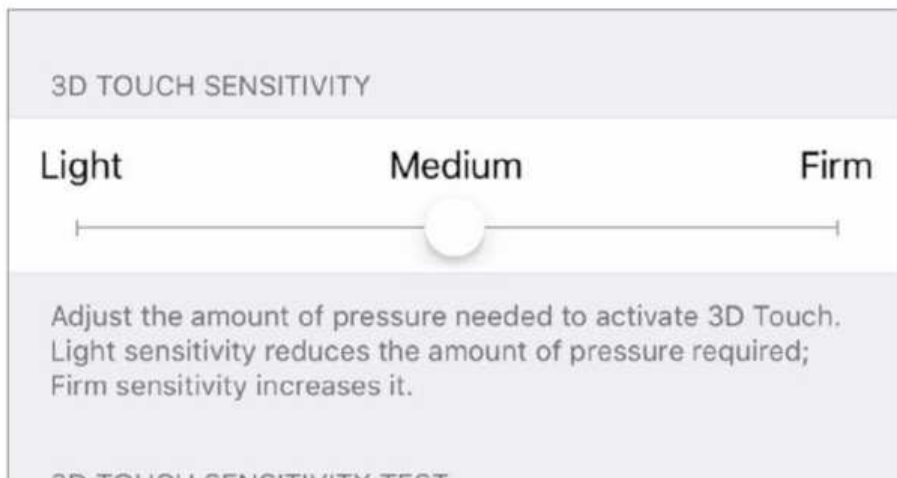
Evernote supports Quick Actions on the home screen with shortcuts for creating a new note, taking a photo, or setting a reminder. Within the Evernote app, you can take a Peek into website links or notes from your Evernote home screen.

Twitter

Hard-press on the Twitter icon and you will get the option to search through your Twitter feed, post a new Tweet, or send a direct message on Twitter.

Shazam

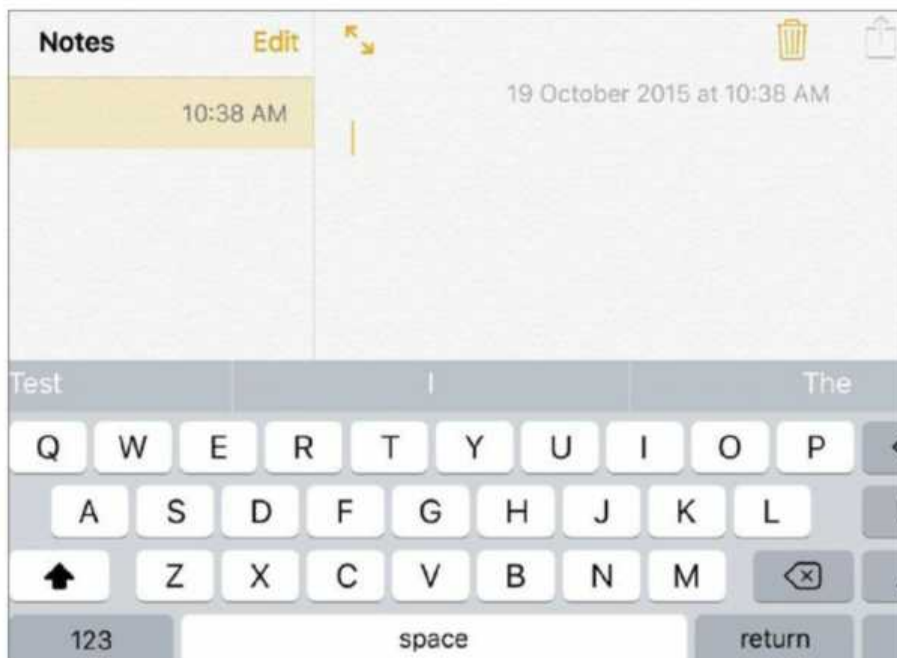
If opening and waiting for the Shazam app to load takes too long, hard-press on the app icon on the home screen and you get the option to "Shazam Now." You also can activate Visual Shazam to activate the QR reader when you see the Shazam camera logo on posters, magazines, or books.



Notes

While Notes has been revamped for all devices running iOS 9, it deserves a special mention on the iPhone 6s and 6s Plus, thanks to its interaction with 3D Touch. The new Notes lets you format your text, add photos, either through the dedicated camera button or just by inserting an image, add maps and URLs, create to-do lists, and best of all, you can use it as a sketch pad. Tap the sketch button at the bottom of the screen to begin drawing. This brings up a series of digital drawing tools (pen, highlighter, pencil, and eraser), along with a ruler for drawing straight lines. Use two fingers to turn the ruler to any angle you want.

Turn the iPhone to landscape mode, and you'll see a range of color options when drawing. The harder you press with your finger, the thicker the lines you draw.



Touch ID 2.0

First introduced in the iPhone 5s, Apple's Touch ID fingerprint scanner has become the benchmark against which all fingerprint scanners are measured. While Apple's rivals seemed like they had caught up with their own fingerprint scanners, Apple has once again left them in the dust with its second-generation Touch ID scanner.

The new Touch ID, found exclusively on the iPhone 6s and 6s Plus is about twice as fast as the previous (already fast) scanner. In fact, it's so fast, it's often impossible to use the Home button to view the lock screen (e.g., to check for notifications), because by the time the display has turned on, your phone is already unlocked and loading the home screen.

Here are some tips for using the new Touch ID scanner:

Feel free to register multiple fingers

On the old Touch ID scanner, the more fingerprints you stored, the slower your Touch ID scanner became (due to it having to check against all of the stored prints). The new Touch ID scanner doesn't seem to be slowed down at all by multiple prints, so feel free to add up to the maximum of five.

Scan your finger upside down

When you register your fingerprint, the directions make it seem as if you have to line up your finger in a certain orientation, but in reality, the Touch ID sensor has 360-degree readability, so if your phone is across the table from you or you just feel like showing off, you can unlock it upside down without having to turn it the right way up.

Five tries, not three

If your finger fails to scan three times, you'll get a passcode prompt to unlock your phone. However, you actually have two more attempts before you're forced to use your passcode.

Set up a wet fingerprint

I've found that the only time the Touch ID scanner fails to unlock is when our finger is wet. But if you register a new fingerprint while your finger is wet, this will no longer be a problem.

Which finger is which?

If you've registered multiple fingers, but didn't label them, you can easily identify which is which by scanning them in Touch ID Settings. When you scan one of your fingers, the matching print will briefly be highlighted from the list.

Live Photos

In addition to upgrading the 6s' camera module, Apple has introduced a new camera mode, called Live Photos, which is basically the real-world version of the magical moving photos from *Harry Potter*. When Live Photos are enabled, the iPhone will record 1.5 seconds of video footage before and after you hit the shutter button; it captures the before footage by constantly recording whenever your camera app is open and Live Photos are enabled, but only saves the footage if you actually press the shutter button.



When you look at your Live Photo later, you can press and hold the photo and it will turn into a three-second looping video complete with audio. It's really clever and adds a bit of fun and context to your pictures. Incidentally, Live Photos still work even if you have 3D Touch turned off. Each Live Photo takes up twice the storage space of a regular still photo. While that may not seem like much, Live Photos are on by default and the majority of your photos are unlikely to benefit from it (hello, food pictures), so they can chew

Record in 4K

For those really special moments when you want video longer than three seconds, the new iPhones are able to shoot 4K video (3840 x 2160). To shoot 4K video on the iPhone, you'll need to turn it on. For some reason, you can't actually do this from the camera app. Instead, you'll need to head into the Settings Menu, then Photos & Cameras. Scroll down to Camera, and you'll see an option for Record Video. Tap that, and you'll be able to select the 4K option. If you're planning on shooting a lot of video, you'll definitely want the 6s Plus, since its optical image stabilization now works on videos.



through storage space fairly quickly, especially if you have a 16GB or even 64GB iPhone. Our suggestion would be to turn Live Photos off (by tapping the Live Photo icon at the top of the camera app), and only activate it when you know

you want to capture something special.

By the way, if you want to delete just the Live Photo portion of a photo, select the photo, press Edit, then hit the Live Photo icon on the top left, then hit Done.

Save your phone bill by turning off Wi-Fi Assist

Wi-Fi Assist is a new feature in iOS 9 that automatically enables your cellular data plan whenever the Wi-Fi signal strength drops below a certain level. The feature is designed to tackle the "dead-zone" around your house, where your phone desperately tries to cling to your Wi-Fi signal, but isn't able to actually download anything.

However, many users have found that Wi-Fi Assist seems a bit overzealous in its desire to use your data plan, and will often use cellular data even when you're at home and the Wi-Fi connection seems fine, resulting in much higher than normal data usage.

Until Apple fixes this issue, our suggestion is to turn off Wi-Fi Assist for now (it's on by default). To turn it off, go to Settings, then Mobile Data. Scroll all the way to the bottom of the screen (past the apps), and you'll be able to toggle Wi-Fi Assist off.

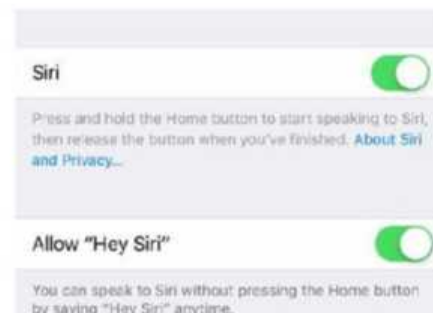


"Hey Siri" anytime

Siri is Apple's virtual assistant, first introduced in the iPhone 4s. Siri can respond to natural language questions, and can answer questions, make recommendations, and perform tasks such as searching the Internet, sending an SMS, making a phone call, or setting an alarm.

Since iOS 8, you've been able to voice activate Siri with the phrase "Hey Siri." The only catch was, your phone needed to be plugged in to a power supply. But thanks to smarter power management and the integration of the M9 motion co-processor into the main A9 chip, you no longer need a power source for "Hey Siri" to work on the new iPhones. Just wake her up whenever you feel like it.

To turn the feature on, go to the Settings Menu, then go to General > Siri and toggle the Allow "Hey Siri" option to on.



Take better selfies

The front camera has also been upgraded on the iPhone 6s and 6s Plus, and is now a 5-megapixel module. The front camera supports Live Photos and HDR mode, and there's also a new flash mode that uses the iPhone's display as a flash, driving it up to three times brighter than normal and adjusting the color of the flash to match the lighting of the scene. If you have flash on, this is done automatically, so you don't even need to set anything up!



Squeeze out more battery life

While the 6s and 6s Plus already have much-improved battery life over their predecessors, Apple has also introduced a new way to get even more battery life out of your device. You'll be promoted to turn on Low Power Mode when your battery hits 20 percent, and again at 10 percent, but you can also turn it on manually at any time, if you know it'll be a long time until you can get to your next power supply.

To enable Low Power Mode, open the Settings app in iOS 9, then choose the new Battery parent menu. From here, a toggle switch for Low Power Mode can be turned on. While you're there, you might also want to toggle on the battery percentage indicator, which will give you a more accurate reading of how much battery life you have left.

Once enabled, Low Power Mode changes the battery indicator in the top-right corner to yellow, reminding users that their device is running in a more efficient state. Low Power Mode reduces power consumption by turning off certain features, including mail fetch, background app refresh, and automatic downloads. In addition, some visual effects are reduced or disabled to squeeze more out of the device's battery. Low Power Mode is also said to affect networking capabilities to boost uptime. **HMM**



**3D TOUCH IS,
WITHOUT A DOUBT,
THE SIGNATURE
FEATURE OF THE
APPLE IPHONE 6S AND
IPHONE 6S PLUS.**

LEARN

MICROSOFT'S ULTIMATE HYBRIDS

Unlike Apple, which has two distinct operating systems for mobile and desktop devices, Microsoft only has one: Windows 10. And this is why the Redmond-based company is able to come up with a tablet that can be a laptop (the Surface Pro 4), and a laptop that can be a tablet (the Surface Book). Confused? Let us explain.

Text by *Ng Chong Seng*



CHRISTMAS GADGET GIFT-GUIDE

This Yuletide season's perfect gifts

NATIONAL GEOGRAPHIC



MEDITERRANEAN MEDIA LIFESTYLE BAG

- The Mediterranean Collection offers 7 different models including small and medium back packs, shoulder bags, a medium holster and a medium sling bag.
- Each bag is ergonomically designed for photographers to travel in comfort, whilst maintaining easy access to their gear.

HOMIDO



VIRTUAL REALITY HEADSET

- Homido is a wireless device that gives you total freedom of movement.
- It is 100% 3D compatible, allowing you to watch your favorite 3D movies and experience virtual reality gaming.
- The binocular vision mode of the headset and the two VR lenses offer a perfect, stereoscopic experience.

BOOMPODS™
Music. Anywhere. Everywhere.



AQUAPOD WATERPROOF BLUETOOTH SPEAKER

- BoomPods' ultimate go-anywhere speaker due to its compact size, tough construction, rubber bumper and IPX7 water proof rating.
- Despite its pocket size it still packs a 70db punch with crystal quality sound due to using the latest 4.0 bluetooth technology and high spec IC chipset.

LUMEE



SELFIE CASE IPHONE CASE FOR 6 AND 6+

- LED case with Dimmer Switch to control light output and let you control the light.
- Rechargeable battery and charging cord. Long lasting battery that works independently of your phone.
- Tough, impact resistant plastic. Your phone is snug and safe with the Lumee case.
- Light at the tip of your fingers. Perfect lighting is just a click away with an easy on/off switch.

runtastic



MOMENT CLASSIC AND FUN HEALTH TRACKING WEARABLE

- The stylish alternative to traditional activity trackers.
- It displays the time like a normal watch, but it can do much more than at first glance.
- Runtastic Moment tracks Steps, Active Minutes, Calories Burned or your Sleep and informs you of your progress directly on the watch face and in the compatible Runtastic Me app.

**PIXIE
TABLETOP TRIPOD**

- Perfectly portable and sturdy tripod for your compact, mirrorless or DSLR cameras.
- Small enough to be carried in almost any bag or just left connected under the camera body when not in use.
- Available in black, grey, white, pink and red.

Manfrotto



MICROSOFT SURFACE PRO 4 VS. SURFACE BOOK: WHICH TO BUY?

On October 6, Microsoft surprised the industry when it announced the Surface Book, a super-powerful laptop with a detachable screen. Wait, how is that different from the also newly announced Surface Pro 4? Let us tell you the key differences so that you know which to buy.



PICTURES: MICROSOFT

If the Surface Book is the ultimate laptop, then it's no hyperbole to call the Surface Pro 4 the ultimate tablet.

TABLET-FIRST VS. LAPTOP-FIRST

The Surface Pro 4, powered by the sixth-generation Intel Skylake M3, Core i5, or Core i7 processors, is primarily a tablet-first device. But with a 12.3-inch, 2736 x 1824-pixel PixelSense display, up to 16GB RAM and 1TB SSD, Surface Pen support, and Windows 10 Pro, this powerful tablet is no mere content consumption device. Flip out the built-in kickstand, snap on a keyboard cover, and the Surface Pro 4 becomes a tablet that can replace your laptop.

On the other hand, the Surface Book is built like a laptop, with a screen at the top and a keyboard at the bottom. Equipped with a bigger 13.5-inch, 3000 x 2000-pixel PixelSense display, it also has a more comfortable keyboard than the Surface Pro 4 Type Cover. Like the tablet, it's powered by the sixth-generation Intel Core i5 and Core i7 processors, supports up to 16GB RAM and 1TB SSD, works with the Surface Pen, and has an 8-megapixel rear camera with autofocus and a 5MP front-facing camera. The detachable screen is a bonus, for the few occasions you need to show the screen to other people.

INTEGRATED GRAPHICS VS. DISCRETE GRAPHICS

The main draw of the Surface Book is that it can be configured with a discrete NVIDIA GPU. This makes it more powerful than the Surface Pro 4 for intensive creative tasks like photo and video editing, as well as gaming. You can also turn the screen around and use it like a creative canvas, without sacrificing any graphical processing power, since the GPU is located at the keyboard base. That said, the integrated graphics on the Surface Pro 4 is no slouch, especially the Intel Iris graphics that's on the Core i7.

With the base removed, the Surface Book becomes a powerful, but still thin and light 13.5-inch tablet – or in Microsoft's own words, a portable clipboard. Unless you need the bigger screen, we think the Surface Pro 4 is a better choice in this usage case. This is because in tablet mode, the Surface Pro lasts up to nine hours, but the Surface Book just three. The Surface Book does get up to 12 hours when it's docked to the keyboard base.



The Surface Pro 4 features the popular continuous kickstand of the Surface Pro 3, an improved Surface Pro 4 Type Cover with backlit keys and a larger trackpad, and the latest Intel Core processors.



An optional discrete GPU allows the Surface Book to harness the full power of hardware-accelerated graphics for photo and video editing, fast rendering, and immersive gaming.

MOBILITY VS. POWER

By now, it should be clear that the Surface Pro 4 is designed for mobile warriors, and the Surface Book for users who demand the very best in performance. Of course, when it comes to form factor, the Surface Pro 4 is significantly thinner and lighter than the Surface Book, even if you factor in the Type Cover. On its own, the Surface Pro 4 is just 8.4mm thick and weighs around 780g. Throw in the Type Cover, and those figures go up to 13mm and 1.07kg.

On the other hand, the Surface Book comes in around 22.8mm at its thickest point and weighs about 1.57kg. That said, the Surface Book's heft and its innovative dynamic fulcrum hinge that shifts the screen's center of gravity effectively make it more usable on the lap than the Surface Pro 4. Bigger screen and discrete graphics aside, the Surface Book also trumps the Surface Pro 4 in terms of connectivity. It has an additional USB 3.0 port and accepts full-sized SD cards.

THE PRICE OF GREATNESS

The Surface Pro 4 has a US\$ 899 starting price, whereas the most affordable Surface Book costs US\$ 1,499. That may look like a big difference, but it's not a fair comparison, because the entry-level Surface Pro 4 only has a Core M3 processor and 4GB RAM.

The Core i5 Surface Pro 4 with 256GB of storage and 8GB RAM costs US\$ 1,299, whereas a similarly spec'd Surface Book costs US\$ 1,699. However, note that this Surface Book doesn't have discrete graphics; if you opt for it, the price shoots to US\$ 1,899. Prices go up pretty quickly after that. A Surface Book with a Core i7 processor, 8GB RAM, 256GB SSD, and discrete graphics costs US\$ 2,099, and this is before maxing out RAM and storage.

Finally, note that the Surface Pro 4's Type Cover is an optional accessory and will set you back US\$ 130. This closes the price gap further, especially if you were to pick up a Surface Book without the discrete GPU.

NOTING DOWN THE BEST OF THE SAMSUNG GALAXY NOTE 5

by Liu Hongzuo

The Samsung Galaxy Note 5 is a hot favorite among Android OS smartphone users, but with every new generation, it has gotten quite difficult to keep track of the new features and updates baked into the S Pen – both obvious and covert. Here are some tips on the effective use of its notation functionalities to help you decide whether the Galaxy Note 5 should be your next upgrade.

ONLINE SHOPPING

Saw something you like in a blogshop? A typical smartphone will probably have you taking a simple screenshot and it goes into your photo gallery, which is an unsorted mess at best. That, or you might be checking for the best deal across a few sites, and bookmarking multiple pages can become a real pain since you need to click to view each deal and listing. The S Pen helps to organize your e-shopping into a more sensible experience.

Simply hold the S Pen near the screen's surface, and press the button on the stylus. A floating Air Command menu appears, and the Smart Select feature is what you're looking for. Once you've highlighted your choice, tap the Share at the top of the display, and select Save to Scrapbook. This step is important because of the Scrapbook app's inherent functionalities; the built-in Scrapbook stores a copy of your screenshot, together with the URL

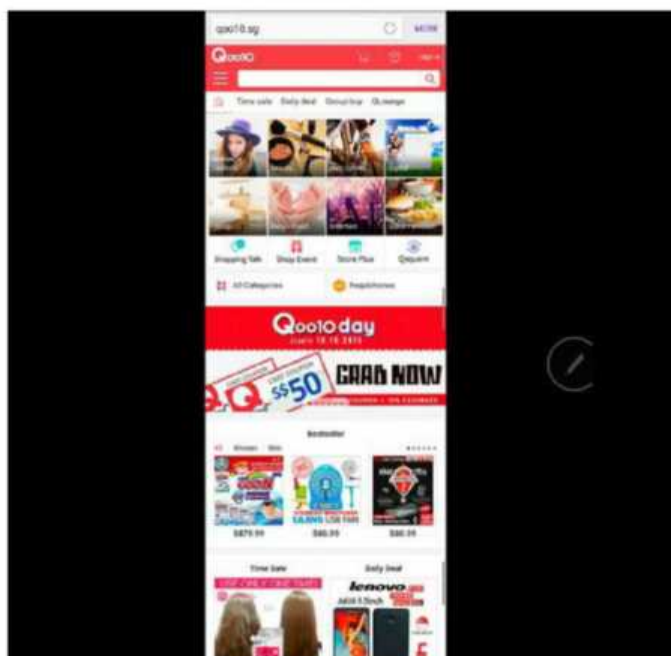
of the page you saved.

There's also Screen Write in Air Command, which lets you doodle on your screenshots before saving, so you can make important annotations to highlight details such as circling the "free delivery" clause on the page. Within Screen Write, there's a new Note functionality called Scroll Capture, which lets you snap long screenshots of up to 22 pages vertically, making it extremely handy for sites like Amazon with multiple listings of the same product. If you only want a crop of the screenshot for better focus, there's also the lasso drawing tool in Smart Select, which can be further refined with Auto Shape once you're done tracing.

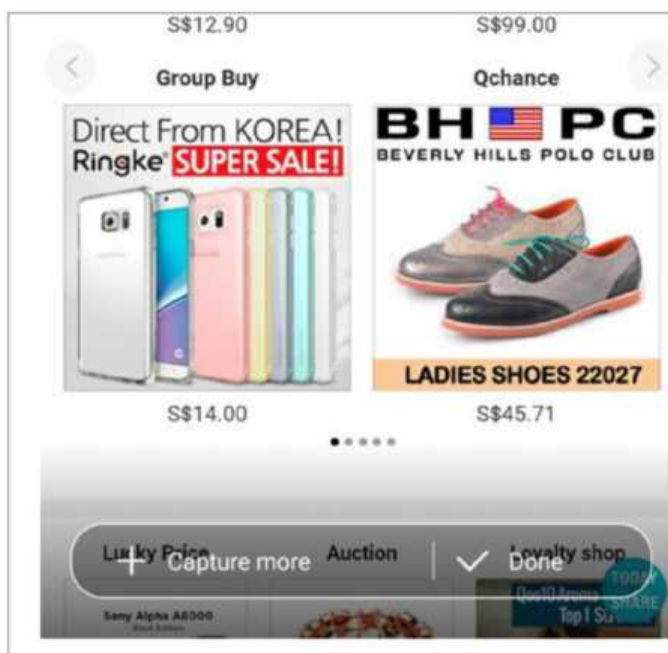
To top it off, the S Pen's tip is fine enough to press the ridiculously small X on pop-up ads. While it's a convenience feature at best, it is nice to be able to shop without interruption.



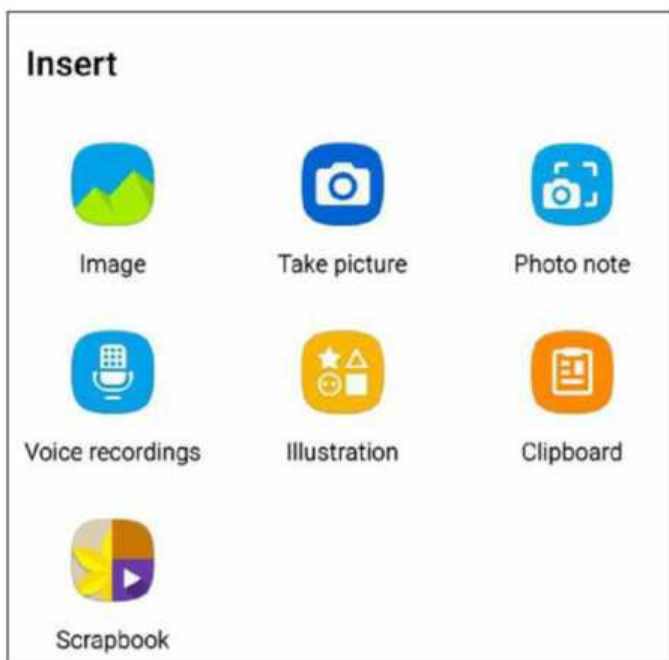
PICTURES SAMSUNG



Here's a sample of scroll capture.



Simply press Capture More for longer webpages and hit Done when satisfied.



You can add photos or audio clips to notes made in S Note.

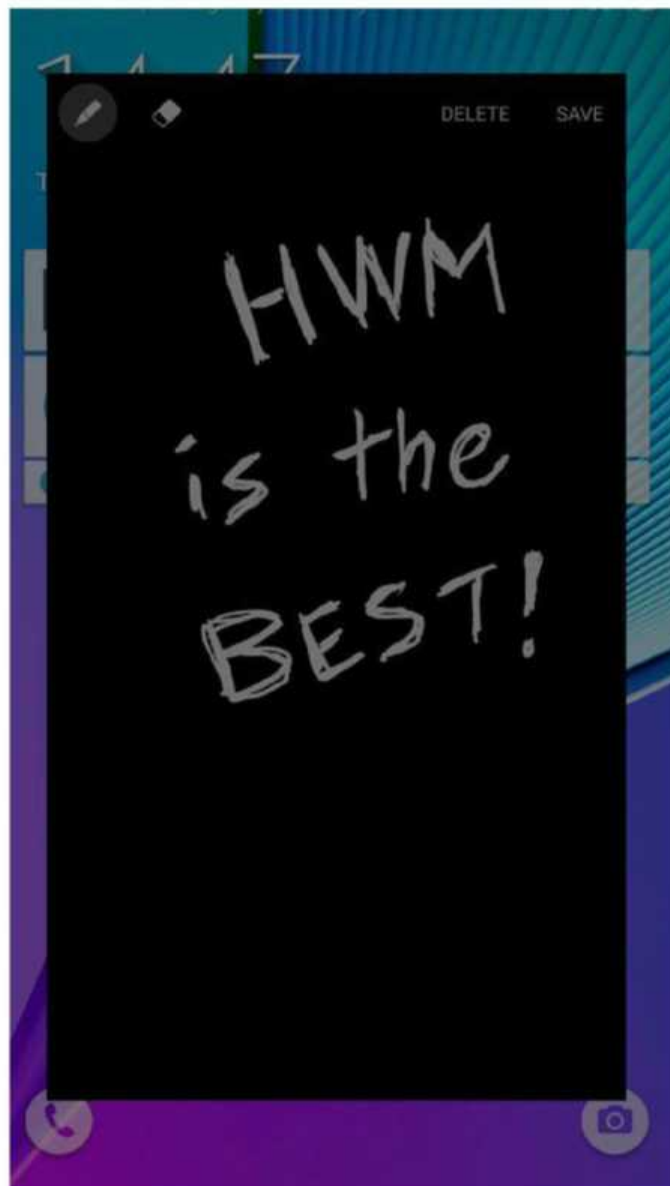


Save your work in Scrapbook (bottom) if you want to attach cropped images or URLs for future reference.

NOTE TAKING

The stylus-enabled smartphone is called the Galaxy Note 5 for a very good (and obvious) reason. One feature introduced in the Note 5 is the ability to write memos down without needing to wake up the phone. Called the Screen Off Memo, it starts the moment you remove the S Pen from its dock. It can be handy if you need to jot a point down quickly without having to flip through pages of apps, especially for something transient like copying the groceries list onto the phone, or helping someone pass a message along.

For notes that will be referred to within the day, there's Action Memo. This option lets you pin notes onto your Home screen as a widget. It's handy if you need something done after a busy day at work, with errands



Scribble quick memos without needing to open apps.

you can't afford to forget running before heading home.

Even with these options, the full-fledged S Note is what defines the Note 5's note-taking experience. In a nutshell, this in-built app lets you write, and it also allows you to annotate or illustrate with photos taken instantly via Photo Notes, topped off with the ability to record audio as well. What you get is a suite that's perfect for producing minutes for the meeting, or digesting an extremely important lecture.

One handy bonus is how the S Pen lets you sign off PDF documents. Simply open it and choose "write on PDF" via the Annotate on PDF feature. If your office is in the habit of excessive red tape, this feature eliminates one reason for you to double back to the office, or pull out the laptop just to append a signature to a simple document.

WHAT'S NEW IN WATCHOS 2?

by *Kenny Yeo*

Apple's watchOS 2 is the first major software update for the Apple Watch, and it promises many improvements and refinements to the UI, as well as new features and capabilities. Here's what's new.



NATIVE APPS

One of the biggest complaints leveled at the Apple Watch is that apps run slowly. The reason for this is because all the processing was being done on the iPhone, and only the app interface was running on the watch. In watchOS 2, apps will now run more natively on the Apple Watch. Apps will still rely on your iPhone to pull up data or look stuff up, but much more of the processing will be handled by the watch, which should result in snappier apps.

Speed aside, since more of the app is run natively on the watch, this also means that third-party apps will have more functionality, even if the watch is out of range from the iPhone. Previously, third-party apps could not access hardware features like the built-in mic, speaker, or heart-rate sensor; now, they can.



NEW WATCH FACES

The dial or watch face, as Apple calls it, is the first thing you see when you lift up your wrist. And since there's no way for users to create their own watch faces, it makes sense that Apple is sprucing things up by offering new watch faces.

There's a new series of watch faces called Time-Lapse, which are actually time-lapse videos shot over 24 hours. There are six locations to choose from: New York, Hong Kong, London, Shanghai, Paris, and Mack Lake. The scenery changes to reflect the time of the day and they are quite stunning to look at. They even animate slightly, too. If you look closely at the New York watch face, you'll see moving traffic.

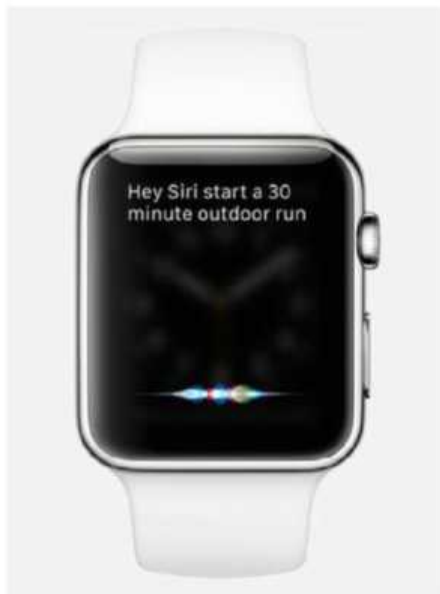
Users will also be able to use their own photos as watch faces, and can specify between a single photo and photo album. If you chose the latter, your Apple Watch will pick a different photo to use as a watch face each time you lift up your wrist to look at it. Also, if you have an iPhone 6s or 6 Plus, you can take Live Photos and use them as watch faces; whenever you lift your wrist, the Live Photo will automatically animate.



PICTURES: APPLE

SIRI

Siri on Apple Watch now has expanded capabilities. Some new things that Siri can do include starting workouts, calculating tips, looking up words in the dictionary, and reveal Glances, even if you don't have that particular Glance activated. If you're in a city where transit directions are supported, you can even get travel directions straight from your Apple Watch.



NEW WATCH COMPLICATIONS

Complications are what Apple calls the extra bits of information that can be customized to display on the watch face. Some watch faces allow you to display more complications than others, and some cannot display any complications at all. Regardless, Apple is now allowing users to customize complications with information from third-party apps.



ADD MORE FRIENDS

For users who are social butterflies, Apple will now allow you to add more friends to your watch. Previously, the friends list was limited to 12, but now the Apple Watch can display multiple friend screens, with each screen still showing 12 friends. You can also name each friend screen for easy identification, so you can send your sketches and heart beats to all your friends.



MAIL

Previously, the Mail app on the Apple Watch was quite limited; you could only read emails and organize emails, and that was it. Now, users can reply to emails immediately from their Apple Watch. This can be done using preset messages, emojis, or you can dictate a response using Siri – all of which are a far cry compared to the limitations from before.



NIGHTSTAND MODE

A nifty new feature is Nightstand mode. Since the Apple Watch is designed to be charged every night, charging it and placing it on its side will now cause the watch to instantly go into this mode. In Nightstand mode, a simple tap on the screen or a press on the Digital Crown will cause it to show the time in a convenient orientation for users.



ACTIVATION LOCK

On iPhones and iPads, the user is required to enter his or her Apple ID before the device can be reset or wiped. However, this security feature was surprisingly missing from the Apple Watch when it was launched. Fortunately, Apple is including it on watchOS 2. This means that a stolen or lost Apple Watch cannot be easily wiped or reset.



DIRECTX 12 AND 12_1: WHAT'S THE DIFFERENCE?

by Koh Wanzi

Windows 10 is rolling out for free to PCs across the globe, and it's at the center of many things, not least Microsoft's universal app strategy to grow the selection of Windows Phone apps by getting developers to create apps for Windows 10 desktops.

But there's one other reason why Windows 10 matters, and that's DirectX 12. Touted as a next-generation application programming interface (API) that offers lower overheads and more efficient utilization of multi-core CPUs, DirectX 12 promises improved performance for gamers all over.

That sounds great, which is why DirectX 12 has been the center of a lot of hype and also a lot of confusion. Considerable discussion has arisen around DirectX feature levels and version numbers, and you may have seen DirectX referenced variously as DirectX 11.1 and 12_1. As it turns out, that's not due to varying house styles, and the two are, in fact, quite different things.

A DirectX version update adds a new set of standardized capabilities that give developers more tools to do their jobs better. In the case of

DirectX 12, that would be the ability to have lower API overheads, improved utilization of multi-core CPUs, and the ability to combine the graphics processing capabilities of non-identical GPUs.

On the other hand, a DirectX feature level is a clearly defined set of GPU functionality. It defines the minimum level of support a particular GPU needs to offer while still supporting the underlying DirectX specification. Note that we said minimum levels of support, so even though feature level 12_1 specifies support for conservative rasterization Tier 1, a card like the NVIDIA GeForce GTX Titan X actually supports Tier 2.

Ultimately, despite their similarities in naming, feature levels aren't really related to the DirectX 12 API, which is why a card that supports only feature level 11_1 can still support DirectX 12. Take the AMD Radeon R7 370, for example. Even though the card supports only feature level 11_1, it can still take advantage of the key benefits of DirectX 12, like more direct access to GPU hardware for the API. However, it won't benefit from aspects of feature level 12_1, like volume tiled resources and conservative raster.

KEY DX12 FEATURES	D3D 12 API
FEATURE LEVEL 12_1 Volume Tiled Resource Conservative Raster Raster Order Views	Low Overhead More Control Async Compute
FEATURE LEVEL 12_0 Tiled Resource Typed UAV Access Bindless	

GEFORCE GTX 980Ti
ADVANCED API SUPPORT

PICTURES NVIDIA

DirectX feature levels are pre-defined sets of GPU functionality.



Figure 8: Regular Shadow Map



Figure 9: Ray Traced - Conservative Raster OFF



Figure 10: Ray Traced - Conservative Raster ON

Conservative rasterization allows for more natural shadows.

HOW MUCH SHOULD THIS MATTER TO YOU?

But if all DirectX 12 cards will get to enjoy the advantages of the underlying API, does that mean that feature level support is inconsequential? That depends.

The Fiji GPU on AMD's flagship Radeon R9 Fury X uses the latest Graphics Core Next (GCN) 1.2 architecture and supports DirectX feature level 12_0. On the other hand, top NVIDIA cards using the GM200 GPU like the GeForce GTX Titan X and 980 Ti support feature level 12_1.

One edge that NVIDIA has is support for conservative rasterization with feature level 12_1. Shadows are one of the more difficult things to render in a true-to-life manner, but conservative rasterization enables smoother and more natural shadows, which is something that will be readily observed by end users.

On the other hand, AMD's GCN 1.2 architecture supports Resource Binding Tier 3, which – thanks to some backend changes that don't require the CPU to work as hard – improves performance and makes for a more

efficient graphics pipeline. However, unlike conservative rasterization, these changes don't translate into any on-screen eye candy, so NVIDIA may in fact have the advantage here, at least in terms of perceivable benefits.

But let's return to the example of the Radeon R7 370. The card only supports feature level 11_1, whereas the NVIDIA GeForce GTX 950 supports feature level 12_1. In the world of product marketing – where facts are often blurred – this has led to claims that AMD cards, including GCN 1.2 cards such as the Radeon R9 Fury X, don't fully support DirectX 12.

This is slightly misleading, because no single graphics card supports the entire set of DirectX features. For instance, the NVIDIA GeForce GTX Titan X and 980 Ti only support Resource Binding Tier 2 (compared to Tier 3 on AMD's GCN 1.2 cards), despite their much-vaunted feature level 12_1 support.

At the end of the day, there's just one key takeaway: Full support for DirectX 12 is a myth. Each card from NVIDIA and AMD both support different feature sets, and it's up to you to decide which matter more, or if at all.



Regardless of whether they support feature level 12_0 or 12_1, no one card supports the entire set of DirectX 12 features.



WWW.WAVE891.FM



WAVE891FM



@WAVE891FM



WAVE891FM

Wave 89.1

THE BLOO PARTY

SUNDAY 3PM-5PM



FLAVAMATIKZ

KNOWA
LAZARUS

MADDY
MADDZ

JAY-R



SUBSCRIBE TO HWM NOW AND YOU SAVE 20% PAY ONLY PHP 1,536 FOR 12 ISSUES!

Get smart now and pay only PhP 1,536 for 12 issues when you subscribe to HWM today. You'll get every issue delivered fresh and straight to your own mailbox!

EXTRA BENEFITS WHEN YOU SUBSCRIBE TO HWM

- 01 Save 20% off the newstand's price!
- 02 Pay only PhP 1,536 for 12 issues instead of PhP 1,920!
- 03 Each subscription entitles you to a lucky draw!
- 04 Free delivery to your mailbox!
- 05 Never miss any of our issues!



VELOCI

☐ Subscribe today and you might be the lucky winner of a **Veloci Slim** or **Pulse** wristwatch as a bonus to a fresh year's supply of HWM! This offer is available up until December 31, 2015 only.

Fold Here

STAMP HERE

HARDWAREZONE PHILS. CORP.
Unit B-2, Topy Main Building, No. 3 Economia Street,
Bagumbayan, Quezon City 1110, Philippines

Cut here ✂

PAY ONLY PHP 1,536 FOR 12 ISSUES!

STEP 1

YES! SUBSCRIBE TO HWM PHILIPPINES!

I want to subscribe to HWM starting from the next available issue.

No. of Issues	6 Issues	12 Issues	24 Issues
Rate (Tick One)	<input type="radio"/> PHP 768*	<input type="radio"/> PHP 1,536*	<input type="radio"/> PHP 3,072*

* Metro Manila rates only

Fold Here



Subscribing to HWM is a steal of a deal! Not only do you get 20% savings for a monthly serving of good reads, you can also win cool stuff, just like Ester Jee Carin, who won a pair of Yurbuds Inspire 300 as a bonus to her year-long subscription!

STEP 2

YOUR DETAILS

Name	_____
Mailing Address	_____ _____ _____
Home No.	_____
Office No.	_____
Mobile No.	_____
Fax No.	_____
Email	_____
Gender	<input type="radio"/> Male <input type="radio"/> Female

Education

- ☐ Primary
- ☐ Secondary
- ☐ College
- ☐ Graduate
- ☐ Post-graduate
- ☐ Others

Industry

- ☐ Advertising/Media
- ☐ Automotive/Transportation
- ☐ Construction/Engineering
- ☐ Education/Training
- ☐ Finance/Accountancy
- ☐ Government
- ☐ Hospitality/Tourism
- ☐ Information Technology
- ☐ Legal
- ☐ Logistics/Distribution
- ☐ Manufacturing
- ☐ Medical/Health Care
- ☐ Military
- ☐ People/Real Estate
- ☐ Telecommunications
- ☐ Others

TELL US
MORE
ABOUT
YOURSELVES

Occupation

- ☐ Executive Management
- ☐ General Management
- ☐ Administrative/Support
- ☐ Sales/Marketing/Distribution
- ☐ Call Center
- ☐ Self Employed
- ☐ College Student
- ☐ High School Student
- ☐ Others

Monthly Income

- ☐ PHP 5,000-PHP 8,000
- ☐ PHP 8,001-PHP 12,000
- ☐ PHP 12,001-PHP 18,000
- ☐ PHP 18,001-PHP 25,000
- ☐ PHP 25,001-PHP 35,000
- ☐ PHP 35,001-PHP 50,000
- ☐ PHP 50,001-PHP 100,000
- ☐ PHP 100,001 and above

Please glue here. Do not staple.

Cut here

STEP 3

PAYMENT METHODS

☐ Cash ☐ Check

Enclosed is my check payment made payable to: **HardwareZone Philippines Corp.**

Name of Bank _____

Check Number _____

TERMS AND CONDITIONS

- For inquiries and detailed instructions on how to subscribe to HWM, please contact HardwareZone Philippines Corp. at (632) 634-9179.
- Subscription rates may change without prior notice.

- Please allow 3 or 4 weeks of processing time.
- Subscriber will be updated about his/her subscription status through telephone.
- Rates stated in this form are for addresses in Metro Manila only.
- For provincial subscription rates, please add PHP 100.00 per issue.

Please glue here. Do not staple.

SONY

The world's first 4K Ultra HD smartphone*

4K display and video recording

Ultrafast autofocus and 23Megapixel camera

Powerful 64-bit Octa-core processor

Premium design with fingerprint sensor

XPERIA Z5 Premium

4K



*For more info, see www.sonymobile.com/testresults/



www.sony.com.ph



SonyPhilippines



SonyMobileph



SonyPHinc

ALWAYS IN RANGE



LINKSYS

Wi-Fi technology keeps getting better, but no signal is safe from unintended signal blockage in an indoor environment. The **Linksys RE1000 Wi-Fi Range Extender N300** solves this problem by extending your router or gateway's Wi-Fi signal so that any faraway gadget can receive data over the network. All you have to do is plug it into a wall socket and connect it to your home or work network, then it'll boost the range of the signal and reduce the number of dead zones in the area.

Need this useful gadget for your place? You're in luck, as we're giving away a Linksys RE1000 Wireless-N Extender N300 this month! Simply tell us where exactly you'll use this for a chance to win.

Send in your entries via email to editor.ph@hwzcorp.com together with your name, address, and telephone number. For more information about the product, visit www.facebook.com/MacpowerPH.



The HWM Team congratulates Chatty Rebangcos, the winner of the Elecom Supreme Wireless headphones from our November issue contest.



Terms and Conditions • This contest is open to all HWM readers except staff of Hardware Zone Phils. Corp. • The qualifying period for this contest is until 31 December 2015. • Only the winner(s) of the contest will be notified via email. • Winners are given 15 days to respond to the notification email and another 15 days since replying to claim their respective prizes. Prizes not claimed within this period will be forfeited. • Selection panel's decisions are final and no correspondence will be entertained. • Only one (1) entry per reader in a particular contest. • Should the specified prize be no longer available (e.g., phased out), the contest sponsor may change the prize to another product of similar or equal value. • By sending in your entries, you are agreeing to the above-mentioned terms and conditions.

HEALTH
WEARABLE
IN STYLE

runtastic
MOMENT



runtastic
MOMENT
ELITE



runtastic
MOMENT
BASIC



runtastic
MOMENT
Classic



runtastic
MOMENT
FUN

EXCLUSIVELY AVAILABLE AT
switch



Hălo

Let your style
speak!

- 01 RAFAEL** Sling Bag
SRP: Php 550.00
- 02 IVY** Pouch
SRP: Php 295.00
- 03 IVONNE** Pouch
SPR: Php 295.00
- 04 SIENNA** Pouch
SRP: Php 295.00
- 05 LUCAS** iPad Case
SRP: Php 695.00

